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## MOTOR RETARDATION AS A MANIC-DEPRESSIVE SYMPTOM.

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#### 1. THE EXPERIMENTAL CRITERION OF RETARDATION.

Our reaction to a given situation is determined by the lines of least resistance in the nervous pathways at that moment and to that stimulus. This "set" of the nervous system is determined essentially by the various impulses that have traversed it before, and by immediate conditions of nutrition. These factors give a series of lines of least resistance to an indefinite number of situations, and the reaction to any of these situations will be along the line of least resistance which the past history of the individual has determined for it. The factors which go to determine these lines of least resistance are normally and naturally selected in such a way as shall be most beneficial to their possessor. It is apparent how largely the teleological character of our behavior depends upon the maintenance of the fine balance in the nervous pathways in favor of the most advantageous series of responses. One can also readily figure the profound disorder of behavior inevitably resulting from any disturbances of this "neural balance," be these disturbances themselves the ultimate products of intoxication, or of faulty habits of action and thought.

In a fundamental retardation we have an agency or number of agencies, presumably of toxic origin, which tend to increase the difficulty with which certain nervous impulses, consequently certain psychic functions, can proceed. The actual study of cases shows us that the symptom of retardation may involve the various mental functions largely independently of one another. When its manifestations occur mainly in the higher, associative processes of the mind, we speak of it as a "difficulty in thinking" or "thinking disorder"; we may also see its phenomena confined with some definiteness to the motor side; and as has been elsewhere suggested, those manic-depressive states which show an emotional condition of apparent apathy in contradistinction to depression are the manifestation of this same symptom in the affective sphere. In like manner we may find these phenomena even more restricted within the categories mentioned.

It is obvious, however, that in merely speaking of a "greater difficulty" of the nervous processes, we do not tell the whole story of the effect of this difficulty upon the resulting movements, which are, of course, our ultimate criteria of the symptom. The response may be merely delayed, without seeming to be otherwise affected. More often, however, there is coupled with this delay a certain weakening of its force and effectiveness. On the other hand, the response may be long delayed and then come with explosive force, as though the patient had been gradually accumulating sufficient energy to burst through the retardation. Occasionally the response fails entirely, apparently from not being strong enough to break through; this is apt to be the case with indifferent situations. Under great stresses, however, a marked retardation may be entirely swept away, indicating a considerable reserve strength of the voluntary impulse, just as our muscles seldom if ever put forth under voluntary stimulation the effort of which they are physiologically capable.

Clinically, we judge of a patient's retardation through the general character of his behavior, by the quickness with which he seems to think or speak or move. Experimentally, we make use of the innumerable tests put forward as measures of mental time. So long as we deal only with the presence or absence of retardation in general, the precise mental function that we select to measure is probably of secondary importance to the accuracy of



the experimental method itself. Most such experiments, however, would afford very little information about the character of the retardation, whether concerned with the lower, motor, or higher, associative processes. A purely intellectual retardation we cannot measure directly by any psychological methods at present known, for we always require some form of motor response in addition to the intellectual or associative process. We may first turn attention therefore to the functions which are more primarily motor, attempting to make our measure of retardation, so far as possible, independent of the higher mental processes.

To experimentally isolate mental retardation from motor retardation is no easy task. Almost every experiment in the time relations of voluntary movement involves a conscious process of greater or less complexity, followed by a motor response. While this is not absolutely true (as in simple reaction time in late practice) it is essentially so in the situations with which we have to deal clinically. For rough and ready purposes, some idea can be gained from the comparative degrees of retardation in responses involving different degrees of purely mental effort. Thus if a subject could calculate but slowly, and yet could respond quickly to commands, the indication would be that the retardation was mainly in the nature of a thinking disorder. On the other hand, the more the simple and complex responses were equal in slowness, the greater the likelihood of a retardation principally in the lower, motor centres. The presence of a certain amount of ordinary motor activity does not prove the absence of a motor retardation. The essential point here would be whether the *reactive* movements are quick or slow, and this does not appear in the ordinary observation of a patient's behavior. The phenomena which seem to be associated with motor retardation in these experiments have appeared most strikingly in cases in which little if any retardation would have been evident to ordinary clinical examination.

But, as has been said, the time of reaction in most psychological experiments is an unsatisfactory measure, since there is not sufficient differentiation between the mental and motor aspects of the symptom. Even such a measure as simple reaction to sound is, at all ordinary stages of practice, seriously vitiated by this difficulty in interpretation. Obviously, the simpler and more in-

dependent of the higher centres we make our experimental process, the more exclusively it becomes concerned with the purely motor factors, and a measure of time relations in the motor sphere.

Of those reactions to external situations which are so automatic as to be largely independent of control of the higher centres, the eye movements are the most important. Theoretically, I should consider the ocular pursuit reaction (Diefendorf and Dodge) as altogether the best criterion of retardation by the method of reaction to external stimulus. The present criterion of retardation possesses a good quality in that it is not immediately dependent on reaction to external stimulus, as well as certain minor technical advantages.

The psychological process involved in the successive movements of the tapping test is not clearly made out. It is, however, the verdict of introspection that the successive taps at maximum rate are not each the product of a separate conscious innervation. Nor can we conceive of the process as one of successive simple reactions to the various kinaesthetic sensations that the movements of the test present. The normal initial rate of tapping (about 7 per second) cannot be executed without 14 co-ordinated movements per second, and in reality the process is much more complex. Only the simplest reflexes have such a rate as this; no movement in which a voluntary process shares. A series of taps at the maximum rate is therefore a product of but few volitional processes, which merely give a "set" to which the organism responds by a continued series of reflex responses.

What then determines the rate at which these reflex responses take place? It is *limited* by the refractory phase of the neurone-paths, but, save in late practice, it is much slower than this; it is a matter mainly of efficiency in co-ordination. Beyond this we must judge purely empirically, by noting the external conditions which affect it. In normal individuals it does not seem to be especially influenced by conditions which are open to introspection. On the other hand, any previous activities tending to produce the "*Erregung*," of Kraepelin, seem to increase the rate. If carried to the point of physical fatigue, the rate is decreased; but it does not seem that what is ordinarily called "intellectual fatigue" has any marked effect. If the tapping be continued, there results the decrease in efficiency ordinarily described as fatigue. This

can hardly be dependent on muscular factors, since it normally is a matter of about 14 per cent within 180 taps, and the isolated muscle would hardly fatigue to rapidly succeeding stimuli in this way. Nor has it any but a very indirect relation to the sensations of fatigue, which are presumably of muscular origin. The process can only be described as a decreased efficiency of co-ordination (possibly also to a proportionate lengthening of the period of the refractory phase). Both the absolute rate and the fatigue phenomena of the tapping test seem thus to be determined by obscure conditions of neural tone.

Once the general volition to tap as rapidly as possible is obtained, the minute features of the process go on in relative independence of conscious influence; it is not therefore a function that we should expect to see especially influenced in the presence of a pure thinking disorder. This might affect the time taken to respond to the signal to begin to tap; but once the tapping is begun, its rate is rather a matter of raised or lowered *Willensspannung*, using this term in a wholly objective sense.

The efficiency of this purely motor responsiveness of the organism, the maximum rate of repeated voluntary movements measures in a relatively unequivocal way. For the rest, it is an ordinary work-curve, such as may be obtained in any continuous psychological experiment, being subject to and reflecting all the influences which affect the curve of work. Fatigue, and the reflex inhibitions resulting from sensations of fatigue, tend to produce a decrease in efficiency. Factors having a favorable influence are the so-called "warming up" processes, as well as any more or less external influences that may spur the organism to greater effort. The work-curve that we finally obtain is the complex of all such influences, and their separate analysis is impossible save on a purely empirical basis. We are not concerned, however, with the measurement of such abstractions as absolute fatigue, warming up, or impulse effects, but with the immediate question of how the individual responds to any experimental conditions demanding the continual exercise of a certain voluntary effort. In every individual and in every measure the factors that determine the course of the *Arbeitskurve* have a certain way of balancing each other, and the way in which this balance varies in different

individuals and under different conditions is the essence of the problem with which we are attempting to deal.

In a previous report, attention was called to certain anomalies in the work-curve especially associated with the retardation of manic-depressive depression.<sup>1</sup> In the present study certain of the more important of these cases, together with certain additional material, will be more fully presented from the standpoint of clinical analysis, and the correlation of the experimental results with the clinical pictures. Certain points in differential symptomatology also appear.

While the method and general experimental conditions are the same as those described in a previous contribution,<sup>2</sup> a brief review of them may not be out of place here. The subject begins at a given signal and taps at the maximum rate until a record of 30 seconds is obtained, when he receives a signal to stop. Then follows a 2-minute and 30-second pause, after which a second series is executed, then another 2-minute and 30-second pause, and so on until five series of 30 seconds, each with an intervening pause of 2 minutes and 30 seconds, have been obtained. A similar record of five 30-second series is then made with the other hand. When more than one experiment is made, the hands alternate in precedence from experiment to experiment, except as otherwise specified. In this form the experiment requires about half an hour to make, the greater part of which time is occupied in the pauses. This time can, of course, be much shortened by having the hands alternate from series to series, with a very much shorter pause, say 30 seconds, intervening between the different hands. For the first five or six daily experiments (50 or 60 series) the writer does not believe that this shorter form would, in normal subjects, yield different results from the form with the 2-minute and 30-second pause. In the present subjects, however, many of the points which appear of essential significance would have been much obscured by such a routine, so that this apparently uneconomical form of experiment seems to have more than justified itself.

The experiment is evaluated by counting the number of times

<sup>1</sup> Studies in Retardation, *Am. J. Psych.*, XX, 1909, pp. 38-59.

<sup>2</sup> *Am. J. Psych.*, XIX, 1908, pp. 437-439.



the key is struck and the circuit closed during each of the six 5-second intervals in each 30 seconds' tapping. The precise method of dealing with the data may be illustrated by quoting in full the figures of a single record (five series) with the right hand of a normal individual at the beginning of practice.

TYPE RECORD.

	1st interval 0"-5".	2d interval 5"-10".	3d interval 10"-15".	4th interval 15"-20".	5th interval 20"-25".	6th interval 25"-30".	Total number of taps in each 30" series.
1st Series .....	35	34	32	33	32	32	198
2d Series .....	36	33	33	33	31	31	197
3d Series .....	36	34	34	32	32	33	201
4th Series .....	36	34	34	33	34	33	204
5th Series .....	38	38	36	35	34	34	215
Average of intervals..	36.2	34.6	33.8	33.2	32.6	32.6	<b>203.0</b>

Each of the 30 two-place integers gives the number of taps executed in an interval of 5 seconds. Reading the top line from left to right, we obtain a gradual decrease in the size of the figures, indicating a slowing up in the tapping rate. The right hand figure of three digits, 198, gives the sum of the figures for the six intervals, *i. e.*, the number of taps for the whole 30 seconds. Each successive line may be read in the same way. Considering the two-place integers in column, we obtain in the six figures of two digits and a decimal on the bottom line (36.2, 34.6, 33.8, 33.2, 32.6, 32.6) the average number of taps executed during the first 5 seconds, the second 5 seconds, etc. Naturally, a regular decrease is noted. The figure in heavy-faced type, **203.0**, gives the sum of these six interval figures, *i. e.*, the average number of taps executed each time during the five 30-second series. This figure is taken as indicating the "total efficiency" of the function in that record, subject, of course, to the variability of the single series it represents. Six successive 5-second intervals form a *series*, five 30-second series a *record*, and the two records of right and left hands constitute the single standard *experiment*.



An index of fatigue ( $f$ ) for each record is obtained by dividing the average of the last five intervals by the average for the first interval. The average for first interval is 36.2, and the average for the remaining five is 33.6; the  $f$ , therefore, equals  $\frac{33.6}{36.2}$ , or .93.

A high  $f$  indicates immunity to fatigue loss, a low  $f$  indicates susceptibility to it. If the  $f$  is above 1.00 it indicates that the favorable influences on the work-curve so outweigh those of fatigue that the performance of the five later intervals averaged actually better than the first interval. In normal individuals

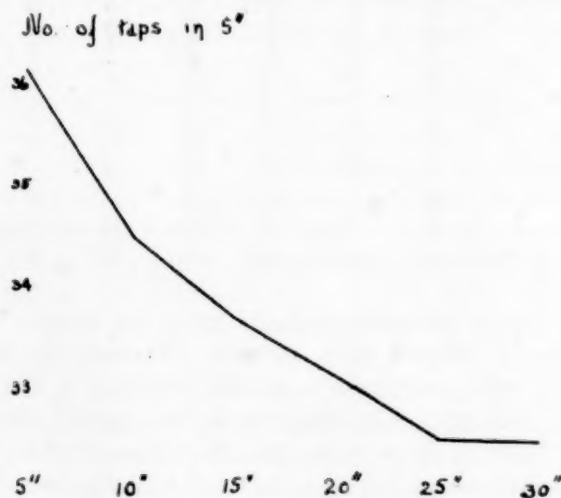


FIG. 1.

this practically never occurs; the normal  $f$  tends to fluctuate between .85 and .95.

There are, of course, many other features in the experiment, but in the present paper we shall be mainly concerned with this  $f$ , and with the character of the work-curve, of which it is an index. The fatigue-curve is plotted by joining together the points representing the average of five performances during each 5-second interval; thus the curve in the above-quoted record would run as shown in Fig. 1.

This gives, in each complete experiment, a curve for the right and a curve for the left hand. With normal subjects two experi-

ments are described, the work with the right hand preceding in the first experiment, and that with the left hand preceding in the second experiment. In speaking further of these records,

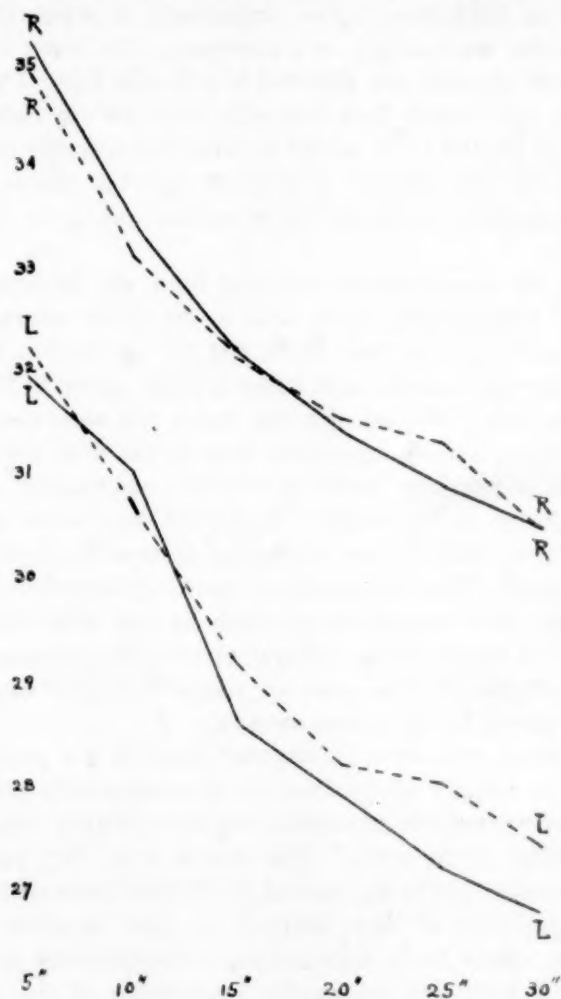


FIG. 2.

*R*<sub>1</sub> and *L*<sub>1</sub> will be used to designate those of the right and left hands in the first experiment; *R*<sub>2</sub> and *L*<sub>2</sub> the right and left hands in the second experiment. Where a greater number of

experiments are performed, the hands alternate in precedence from experiment to experiment. As it makes some difference which hand comes first, it is necessary to distinguish these experiments in the curves. The experiments in which the right hand precedes are sketched in a continuous line, those in which the left hand precedes are sketched in a broken line. The upper continuous and dotted lines naturally refer to the right hand, the lower to the left hand, except as otherwise specially indicated. According to this scheme of presentation, the course of the fatigue phenomena was found in 10 normal men to be as shown in Fig. 2.<sup>3</sup>

That is, the curves follow the usual form, the decrease in the rapidity of tapping being more rapid in the earlier intervals, and then slower. The  $f$ , or ratio of the last five intervals to the first, approximates .90 in each case, being a little higher in the right than in the left. We see that the hands are somewhat closer together in the second experiment than in the first, that is, the right hand is relatively better in the first experiments and the left hand better in the second. Each hand thus tends normally to be relatively better when it precedes than when it follows in the experiment. This relationship is markedly disturbed in some pathological cases, sometimes so much so that whichever hand precedes, it is always better (or worse) than the following hand.

In a typically retarded case of manic-depressive depression the curves shown in Fig. 3 were obtained.

These curves will serve to illustrate most of the peculiarities found in the records of the cases to be subsequently presented. Besides the lowered rate of tapping, the most striking abnormality is in the shape of the curve. This always drops very much less than the normal, and in the case of  $R_1$  it even rises considerably. The interpretation of these delayed, or even negative fatigue phenomena, seems to be that assigned independently by Hoch, Specht, and Hutt, the progressive overcoming of the retardation. This we see most markedly in  $R_1$ , where the curve is

<sup>3</sup> The results with a commensurate group of women were similar so far as the present comparisons are concerned. Cf. Am. J. Ps., XX, 1909, pp. 353-363.

almost the reverse of the normal. The first interval should normally be the best; here it is the worst. Whenever the performance of the first interval is surpassed by the performance

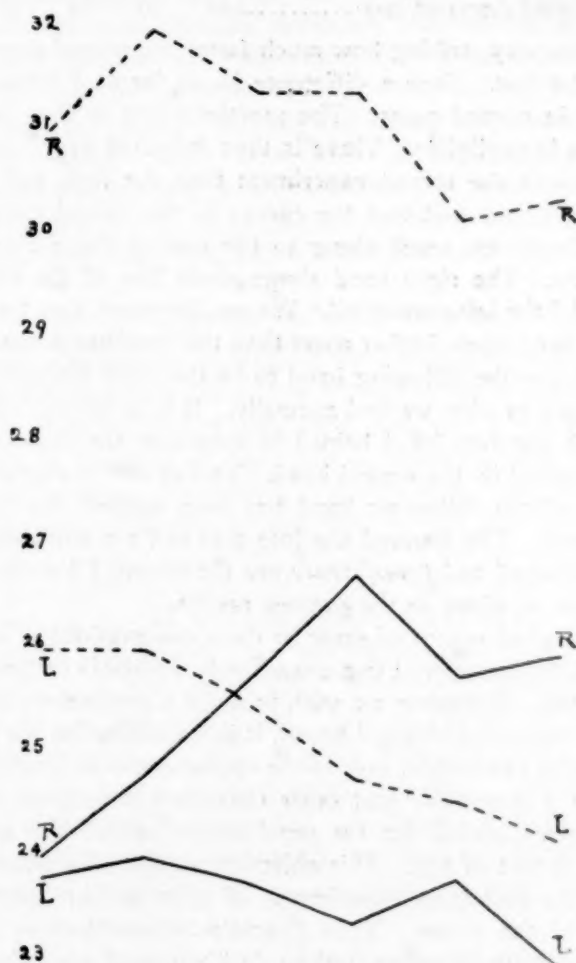


FIG. 3.

of a later interval, this will be known as *reversal*. Besides its conspicuous appearance in *R1*, *reversal* is seen less markedly in *L1* and in *R2*, where the second interval surpasses the first. The

$f$ 's of all these curves are naturally very much above the normal, being as follows:

	R1	R2	L1	L2
Normal average .....	.90	.91	.88	.90
Typical depressed case.....	1.08	.99	.99	.96

It is also very striking how much faster the second experiment is than the first. Such a difference is, so far as I know, never observed in normal cases. The practice effect in two such experiments is negligible. There is thus indicated very much less retardation in the second experiment than the first, and this is confirmed by the fact that the curves of the second experiment (dotted lines) are much closer to the normal shape than those of the first. The right hand shows much less of the abnormal "reversal," the left none at all. We see, however, that the dotted lines are very much farther apart than the continuous ones. This here indicates the following hand to be the more favored, and is the contrary to what we find normally. It is as though the work done with the first hand helped to overcome the resistances to be encountered by the second hand. To this rather characteristic favoring of the following hand has been applied the name of *transference*. The lowered absolute rate and the abnormal presence of *reversal* and *transference* are the essential phenomena of retardation as given in the present results.

The principal source of error in these observations is imposed by limitations in material that are scarcely avoidable in the groups investigated. Whenever we wish to make a comparison between a normal and a pathological group, it is desirable that the groups be as similar as possible, save in the characters to be investigated; otherwise it is possible that other characters than those investigated are responsible for the peculiarities noted. The greatest difficulty is that of age. This objection applies with about equal force in the analogous experiments of Hutt and of Specht, and in those of the writer. Thus Specht's traumatic cases form a fairly homogeneous group, and so do his normal cases, but their averages are many years apart, the normal individuals being for the most part in the twenties, the traumatic cases well along in middle life. So here, the normal group would average about the same as that of Specht, the depressions probably somewhat older, and much more variable. Of how much this factor has influenced



the results, we can judge only indirectly. The phenomena do not seem dependent upon age within the normal or depressed groups, seeming in the latter, at least, much more dependent upon changes in the condition than upon age, nor are they sufficiently evident in equally old cases of other psychoses. The manic group, fortunately, is sufficiently homogeneous with the normal to be capable of direct comparison.

We may now proceed to study the results of the method in a number of special cases. Of cases I, II, III, IV, V, and VIII mention has been made in a previous study, *American Journal of Psychology*, Vol. XX, pp. 38-59. In this previous study they are respectively cases XII, IV, VIII, X, XI, and III.

## 2. CLINICAL HISTORIES AND EXPERIMENTAL RESULTS.

CASE I. On account of existing uncertainties as to the relationship of certain depressive states to psychasthenic conditions and to hysteria the following case, which can now with considerable certainty be assigned to the manic-depressive group, is perhaps of special interest. The patient is a man of 61, with some heredity, described as having always been a very nervous man. A six months' mental breakdown occurred at 38 and another at 40. Since then there have been no marked upsets until the present time, though he has been continually apprehensive and hypochondriacal. He would often get slightly depressed, but never sufficiently so to give up his work. Regarding these (*Abortivfälle?*) he has said that it was "hard to concentrate his mind," "became very blue," "did not want to do anything," "all these attacks begin with a sense of ennui of work." The patient is a man of exceptional intellect and refinement. Physically, he has always been fairly healthy, though he mentions having had dizzy spells since childhood, and he has taken mercury and arsenic for an enlarged liver.

The beginning of the fixed ideas which color the present attack is referred subjectively to an episode about 18 months before admission when the patient, reading of a case of mercurial poisoning who had injured his family, began to fear a similar impulse. This fear became so strong that on one occasion he appealed to the police to restrain him, and during the latter part of this

period he remained away from his family, though wanting very much to be with them. During this time he underwent some hypnotic and psychoanalytic treatment with negative results, and there are recorded three ineffectual attempts at suicide. With this subject the regular experiment was performed four times; on August 19 and 27, and December 23, 1907, and February 24, 1908.

The first two experiments were performed within about a month after the patient's admission. In the first experiment the subject

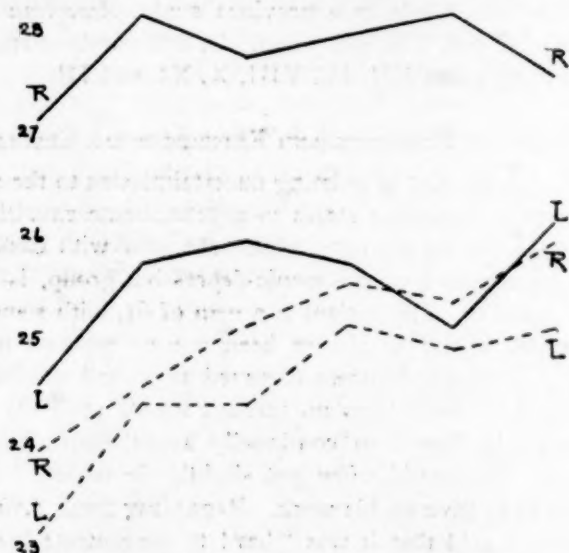


FIG. 4.

seemed to co-operate willingly, although expressing many depressive ideas, especially toward the close of the experiment, when he talked more. This experiment was made in the afternoon, while the experiment of a week later was made in the morning, and at this time he was more depressed. The curves in these experiments are as shown in Fig. 4.

These records, especially those in the second experiment, are as marked illustrations of intraserial warming up and reversal as the writer has observed. The first interval is always the worst, while in only one of the records is the final interval surpassed by an earlier one. For the period used, therefore, the

fatigue-curves are almost the reverse of the normal. The "transference" phenomenon is, however, altogether absent; if anything, it is the preceding hand which is more favored.

During the time up to the next experiment the patient was clinically noted to improve somewhat, and he began to occupy

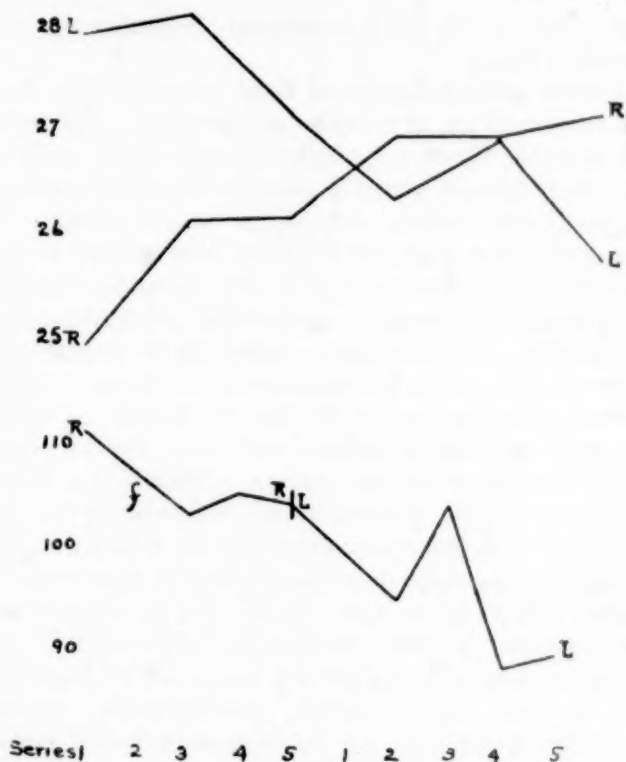


FIG. 5.

himself with various intellectual pursuits that interested him. A physician's note of his condition of January 1, 1908, reads in part: "The patient eats and sleeps well and takes a moderate amount of exercise, though a great deal of his time is spent in his room where he reads and writes. He is always cheerful and agreeable. He was granted parole of the grounds on October 23. Since then he has taken several trips to Cambridge with

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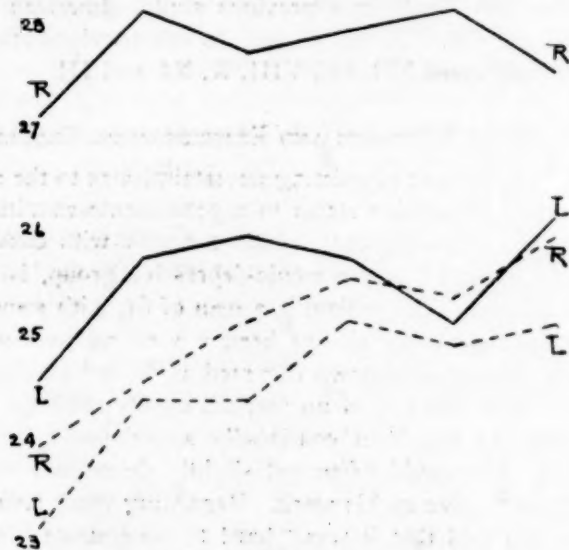


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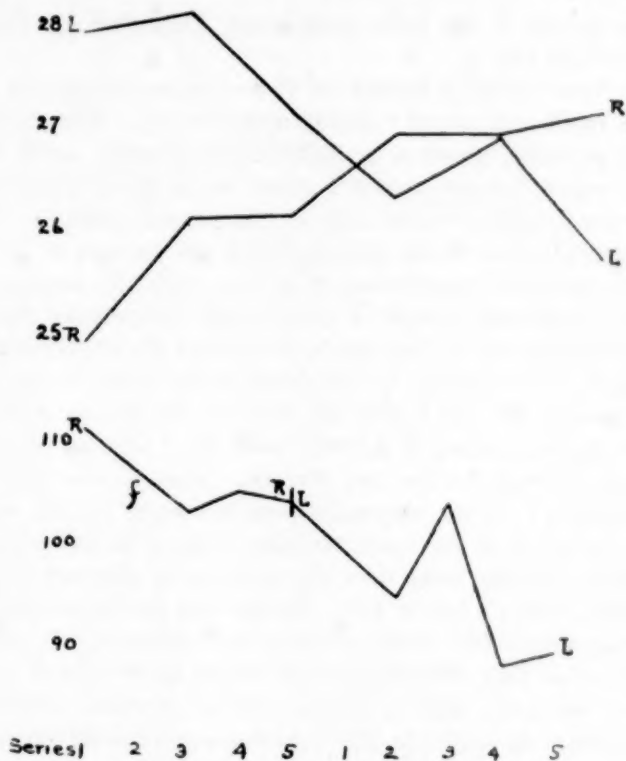


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his friends. These he invariably enjoys." A nurse's note made the day before the third experiment speaks of him as "doing well, seems more cheerful." We have apparently to do, therefore, with some progressive improvement in the patient's condition which may be compared with the difference in response to the test.

The curves in the third experiment, December 23, 1907, are as shown in Fig. 5.

The most striking feature of these curves is that the curves of the two hands are of a totally opposite type. The right hand, which precedes, shows a typically reversed curve, while the left hand, which follows, shows a curve much more approximating the normal, with reversal only in the second interval. It is to be noted also that while the left hand was inferior to the right in both previous experiments, it is now markedly superior to it. These phenomena indicate a considerable progressive change in the fatigability of the two hands throughout the experiment. The character of this change is best shown in the curve of the  $f$  itself, given below the rate curves for the two hands. It will be observed that regardless of the hand used, the  $f$  shows a progressive decrease throughout the two records. That is, the further the "resistances" of the depression are overcome by the work in hand, the more do the characteristics of the retarded work-curve disappear, and the more does the work-curve approach a normal character, with  $f$ 's below 1.00. In the first two experiments the patient responded to these warming-up influences only within a single series, thus affording in both hands fairly typical reversed curves; but now, after a certain interval marked clinically by improvement in condition, the warming-up influence extends not only from series to series, but progressively throughout the records. An examination of the individual fatigue-curves shows how the earlier ones are typically reversed, and how this condition gradually changes over into the normal. The first curve of the experiment, made with the right hand, runs 25—27—27—28—29—29,  $f$  1.12, a typically reversed curve; the last curve of the experiment, made with the left hand, runs 30—28—28—27—26—26,  $f$  .90, a typical normal curve. The apparent superiority of the left hand to the right is presumably a real "transference" phenomenon.

The points indicated in this experiment appear still more strikingly in the experiment made February 23, 1908. When the

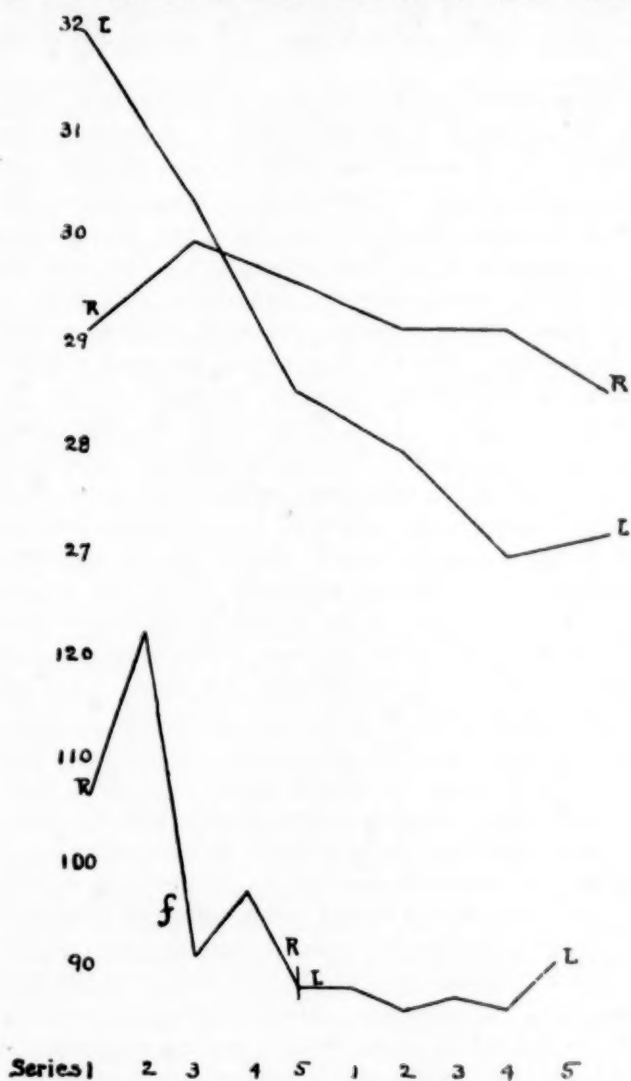


FIG. 6.

patient was sent for he was asleep, and had to be awakened to come to the laboratory. On arriving there, although, as usual,

entirely clear, he showed a depression and apprehensive manner not much out of keeping with his condition when first observed. This wore off during the experiment, at the conclusion of which he was quite smiling and talkative. The curves are as shown in Fig. 6.

We observe here a marked increase in absolute rate, which could hardly be associated with other than a changed condition of the patient. It is beyond the limits of both probable error and practice improvement. There is to a lesser degree the same difference between the preceding right and the following left hands as appeared in the third experiment. The right hand has reversal in the second interval, and shows very little fatigue; the left hand has no reversal, and even fatigues a little more than the normal. There is thus shown the same change in the conditions of fatigability, of which the curve of the  $f$ 's again affords the best index. As in the previous case, this curve shows a progressive tendency to fall, though the fall is now confined to the first half of the experiment, while in the third experiment it persisted through the whole of it. Although this does not appear in the curves quoted, it should also be mentioned that the absolute rate of the five successive series now progressively increases in both hands, in the preceding right hand more than in the following left hand, whereas in the previous experiment this was evident only in the following left hand. The indications are that the patient is now much more susceptible to these warming-up influences, since they occur sooner in the experiment, and cover a wider range of improvement. The first right hand series is the slowest in all four experiments, with 133 taps, showing a curve with but slight reversal, which, however, persists throughout, 21—22—23—22—23—22,  $f$  1.07. It is interesting to compare this with the second series, which in spite of its high  $f$ , 1.21, shows much less reversal. It runs 26—30—34—33—30—30; *i. e.*, a low initial rate, quickly warming up to the maximum, and then fatiguing normally. After this the  $f$ 's drop below 1.00, though the individual curves do not assume a normal character until the last right hand series is reached, running 36—34—32—32—31—31,  $f$  .89. The curves of the left hand are all perfectly normal, as the averages indicate, except that at the conclusion of the experiment there seems to have been a marked

*Schlussantrieb.* Superficially then, we had in this experiment a condition of depression apparently associated with the subject's just having been aroused from sleep, which, under the keying-up influence of the experiment (often very noticeable, even in normal individuals) gradually "swings over" into a condition in which the mood, at least, is rather hypomanic. The final series of this experiment are also not dissimilar from those obtained from manic cases.

The most reasonable interpretation of this case would seem to be that it is a manic-depressive condition which, owing to factors in the patient's make-up, is dominated by impulsive ideas. The depression is not secondary to the fixed ideas, but it is the fixed ideas which are secondary to the depression. This is further evidenced by the fact that the content of the patient's depressive ideas has recently changed somewhat and become more typical of what is ordinarily seen. The striking evidence of a motor retardation which these experiments afford throws an interesting sidelight on the fundamental character of the depressive symptoms.

CASE II. Market gardener, 65, some heredity. As a boy he was quiet and retiring, of a rather "artistic" temperament, learned well at school. Leaving school at 18 on account of illness, he went into business, his occupation being neither eventful nor exacting. The first attack occurred at 42, without cause, showing depression and inadequacy. It was mild and did not interrupt his work. During the next 16 years there were some half dozen similar attacks, which seemed to be followed by hypomanic states. Then attacks of three or four months began to occur every winter, characterized by depression, inadequacy, tendency to worry, and restlessness. These were also followed by slight exhilarations. The patient was admitted in the attack previous to the present, which was the sixteenth. At this time involution symptoms began to appear in exaggerated apprehensiveness and a restlessness occasionally "breaking through" the retardation. He was discharged very much improved after some six weeks, and got along fairly well at home for about a year, when he again became depressed, with delusions, suspiciousness and restlessness, and was readmitted two months later. He was entirely clear about his surroundings, but showed much inadequacy and self-accusation.

The regular experiment was performed twice. In interpreting the records it must be borne in mind that the subject does better

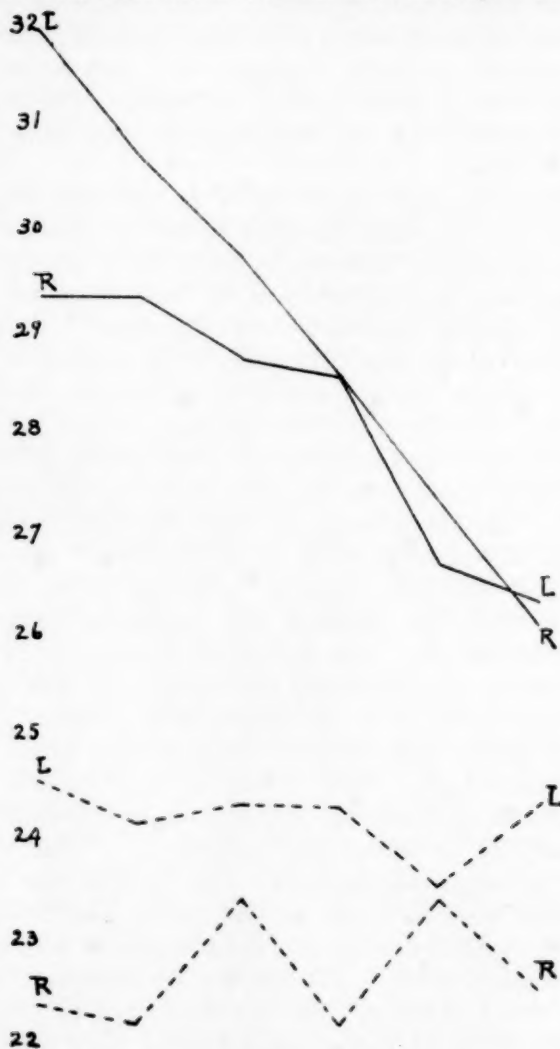


FIG. 7.

with the left hand than with the right. The upper continuous and dotted lines are thus those of the left hand. The curves are as above.



The most striking point in these records is the difference between the first and the second experiments. The first experiment shows little abnormal in the shape of its curves, and its absolute rate is far beyond the limits of probable error above that of the second, which also shows marked evidence of intraserial warming up. As there could hardly have been such changes in superficial co-operativeness, the most natural indication is a change in the patient's condition. No such change can be traced in the clinical notes made independently of the experiments, though it was noted by the writer that the depression did seem somewhat deeper at the time of the second experiment. It would seem, then, that whatever the change in the patient's condition may have been, it was not one which was likely to be apparent to ordinary observation. The clinical notes speak of the patient's condition as fluctuating a good deal from day to day, but give no indication that this was one of his poorer days.

Very shortly after these experiments the patient left the hospital on a visit, and appeared very well for the first few days at home. Then delusional ideas began to return, coupled with restlessness and apprehension, which resulted in his return to the hospital some three and one-half months subsequently. Eight months later, a little over a year after the first two experiments, a third experiment was performed, whose results were very characteristic. The depression was deeper than at either of the two previous experiments. On being questioned a little when he came to the laboratory, his answers were very long in coming, but when they did arrive they were quick, sharp, and decisive. He was constantly fidgeting about, and showed very strikingly that the retardation was specifically one of the time of the outward reaction to the impulse, and not a matter of the absence or absolute feebleness of the impulses themselves. He denied feeling blue, but said he felt "bad." During the course of the experiment his general motor activity increased, and it was noted that he answered questions more promptly, and began a series of tapping sooner after the signal was given. Toward the end of the experiment he also spoke spontaneously. It was evident to ordinary observation that there was markedly less retardation at the end of the experiment than at the beginning. The curves are as below.

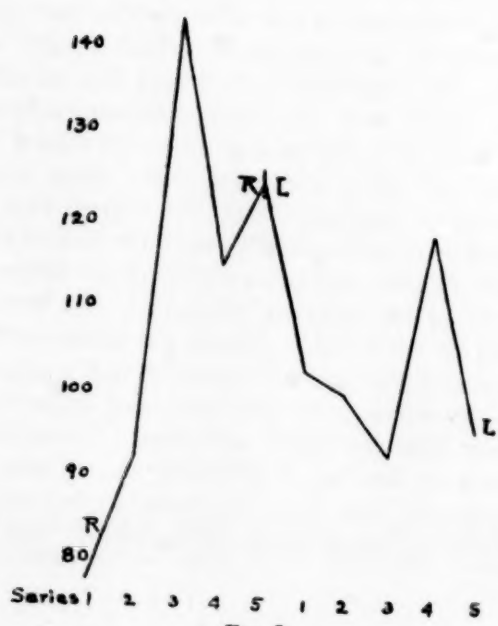
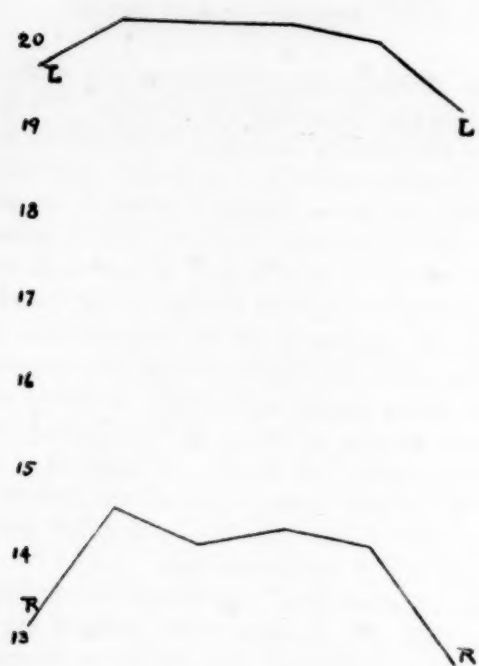


FIG. 8.

The simple curves for the right and left hands show little of significance. There is a tendency to reversal, which, however, is not maintained after the second interval. The undistinctive character of these curves, however, is due wholly to the fact that the progressive overcoming of the retardation already noted clinically, produces so great a variation in the individual series that in simply taking the average for the intervals the progressive changes are masked. The number of taps in each of the five individual series with the right and left hands is as follows:

NUMBER OF TAPS IN 30 SECONDS.

Right hand .....	93	62	82	81	99
Left hand .....	123	96	102	125	157

The characteristic in both hands is a relatively high rate in the first series, which drops to a minimum in the second, and then increases to the end. In each hand a low initial performance seems to be broken through by special influences at the beginning, after which the retardation again asserts itself, only to be overcome by the activities of the test. If we compare the relationship of the right and left hands in this experiment to their relationship in the other two experiments, there is evident a marked transference phenomenon, *i. e.*, undue favoring of the following hand. The left hand here averages half as fast again as the right, while in the previous experiments it was only slightly more rapid. The series in this experiment show a wider variation in rate than occurs in any other experiment the writer has made.

This variation is related in a rather significant way to the fatigue phenomena which the successive series show. The course of the *f*'s through the successive series is plotted in the same way as for Case I. The *f*'s begin low but at once mount very high, showing a great amount of reversal and then a gradual tendency to decrease to the end. Thus at the beginning of the experiment, at the period of greatest retardation, there was within the individual series no response to the warming-up influences at all, the first series running 19—16—14—15—15—14, *f* .79. Later, when the retardation is more overcome, we do find this response to intraserial warming up, obtaining such series as the fifth, with the right hand, running 14—15—18—18—18—16, *f* 1.22. Finally, the retardation is so far overcome that the best efforts

are put forth immediately with no delay in warming up, *e. g.*, with the fifth series in the left hand running 27—27—27—26—25—25, *f* .96, with no actual reversal at all.

These records illustrate especially a point in which the writer has quoted certain interpretations of Hutt.<sup>4</sup> The most profound conditions of retardation may present no response at all to the warming-up influences of the activities of the test, and a gradual overcoming of retardation is first seen in the ability to respond to these warming-up influences (as shown in the reversed curves), while, finally, the retardation being still further overcome, the fatigue-curve again more approximates the normal in form.

CASE III. Retired manufacturer, 71, some heredity. An industrious and hard-working man all his life, of best habits, retiring from business a few years ago, after he had made a moderate fortune. Although always having given a certain amount of his time to church work, at about this period he began to show excessive interest in religious activities that indicates the possibility of a hypomanic condition. Then matters went along about normally for a year, when three or four months before admission he was noticed to be sleepy, apt to lie down, slow to understand, lacking the power to start things. He also began to worry about financial matters, but no real mental cause of this or any other nature is known. For a brief period before admission he spoke openly of suicide. At the time of the experiments he was perfectly clear and oriented, and formed a striking example of those cases who, with a first attack at the involution period, yet show none of the characteristic involution symptoms, but form a typical picture of manic-depressive depression.

With this subject the regular experiment was performed 10 times, first on July 6, 1908, three days after admission; again on July 15, and daily for the eight days following. The averages of the six intervals are given in the curves subjoined, the experiments in which the right hand precedes being sketched in a continuous line, those in which the left hand precedes being sketched in a dotted line (Fig. 9).

The absolute rate is somewhat below the normal, and there

<sup>4</sup> Hutt: *Rechenversuche bei Manisch-Depressive*, Ps. Arb., V. 3 (1908), pp. 338-370. Wells: *Studies in Retardation*, Am. J. Ps., XX, pp. 49-50.



is considerably less fatigue loss than the normal, as is usually the case. On the other hand, except for those with the right hand preceding, the curves show no real reversal, but each individual curve runs along about on a level with no marked fluctuation. The subject co-operated with active willingness, and seemed always anxious to do his best; so that although there is no actual reversal, the curves probably present a real over-balancing of fatigue loss in the constant maintenance of a low but maximum rate.

The transference phenomena, which are the most striking experimental features of retardation in this case, are superficially

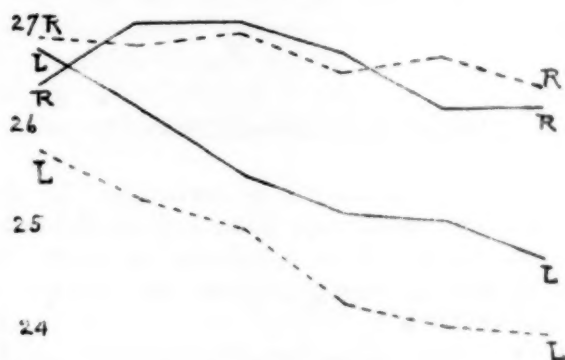


FIG. 9.

shown in the above quoted curves, the dotted lines being farther apart than the continuous ones, showing here that the following hand is the more favored. They are presented in greater detail in the accompanying curves (Fig. 10).

Bearing now in mind that on the odd days the right hand precedes the left, while on the even days the left hand precedes the right, the more favorable position of the following hand is evident. This is very seldom seen in normal individuals, except in a late stage of practice. In the curve for the index of right-handedness the index is invariably low (*i. e.*, the left hand relatively poorer) when the left hand precedes, and high when it follows; on the fifth day the right and left hands were exactly equal. With the sole exception of the last day, the index rises

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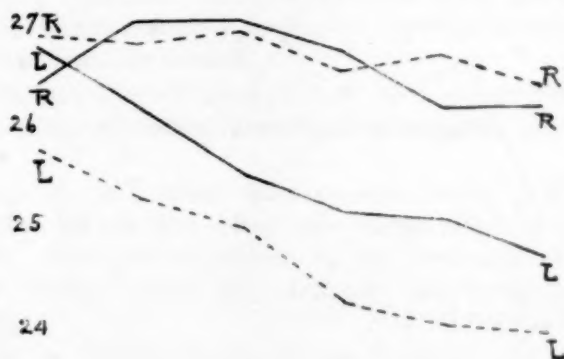


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on the odd, and falls on the even days. This result corresponds closely to that obtained by Hoch in a similar case with the ergograph (*Psychol. Bull.*, I, 255). With respect to  $f$  the left hand is

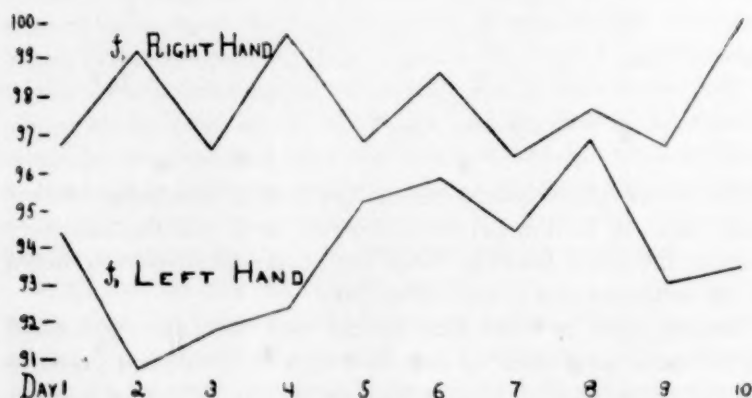
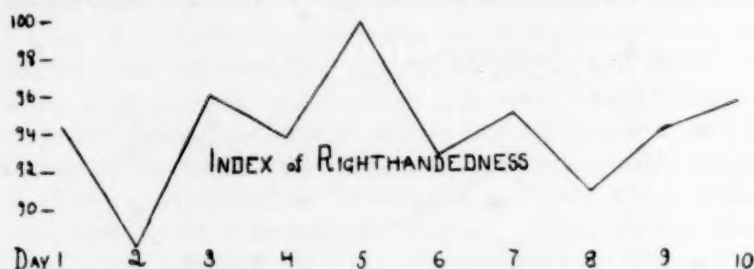
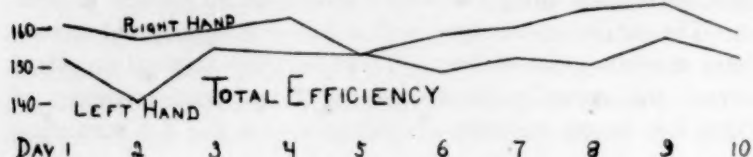


FIG. 10.

subject to a certain constant influence that may be in the nature of practice effect, but the alternation of the right hand  $f$ 's is perfectly clear cut. They are high on the even days when the right hand follows, and low on the odd days when it precedes. Such warming-up effect, then, as is transferred from the pre-

ceding left to the following right hand, shows itself in a greater immunity to fatigue in the right hand; when it has not this warming-up influence behind it, it is distinctly more susceptible to fatigue losses.

In the curves of the total efficiency from day to day, one can trace the same relationship of the right and left hands that the index of right-handedness shows with more fidelity; but it is necessarily obscured by the intercurrent changes in the patient's condition. The writer made a brief daily note of the patient's apparent condition (before evaluating the experiment, of course), the main points of which are as follows:

1. July 9. Patient clear, did not seem much depressed, but expressed spontaneously a feeling of apprehensiveness as distinguished from depression.

2. July 15. Did not seem to take as much interest as previously. Seemed rather more depressed. Spoke spontaneously twice.

3. July 16. Mentioned spontaneously feeling a little more cheerful, as he had been doing some things in which he was interested. Made an adjustment in the apparatus of his own accord. Walked about the laboratory afterwards, examining apparatus.

4. July 17. Said he felt worse than day before, and, in general, seemed more depressed.

5. July 20. Subject about the same. Cannot lie down to rest on account of the depressive ideas that come on him at such times.

6. July 21. Subject felt a little better than usual, according to his own statement. Did not talk so much.

7. July 22. Talked a good deal more freely. Subjective condition better than previously. Spoke of a certain series (wrongly) as the best yet.

8. July 23. Felt worse than day before, did not talk so much.

9. July 24. Subject mentioned feeling "alert" in contrast to usual "numbness"; more alert to-day than at any previous time. Thought was doing better. Talked depressively, but a good deal.

10. July 25. Not nearly so "alert" as day before. About as usual.



The nurse's notes, covering this period, contain nothing contradictory to the above observations. It should be mentioned that these memoranda are derived mainly from immediate observation of the subject, only secondarily from the subject's introspective account of his condition. It is rare, indeed, that a depressed patient will admit feeling better until recovery is far advanced; they often struggle against such an admission, long after improvement is clinically evident.

As we should expect, there is indicated a tendency for the gross rate to be higher on good days, and lower on poor ones. The two extremes of condition, the second and ninth days, are marked by, respectively, the worst and the best performances in the test. For the other days there is nothing special to note, except that on the seventh and tenth days the apparent *change* in condition was sufficient to affect both hands in the same direction; the curves usually run in opposite directions owing to the transference of "warming up."

While the series made on a single day vary less, the day-to-day variability in this subject is a good deal more than the normal, and there may also be noted the absence of practice effect. It seems to be a frequent observation with pathological subjects that susceptibility to practice (*Uebungsfähigkeit*) is decreased, but this is probably secondary to inferior co-operation, the normal practice improvement demanding a degree of doing one's best that is probably never attained in this class of subjects, even under the conditions of greatest apparent willingness.

The following figures give the averages and m. v.'s of the quantities expressed in the foregoing curves, classified according to the preceding hand:

	Index of right-handedness.		<i>f</i> (rt. hd.)		Gross rate rt. hd.		Gross rate lft. hd.	
	Av.	m. v.	Av.	m. v.	Av.	m. v.	Av.	m. v.
Right hand preceding	.960	.018	.966	.001	159.5	2.9	153.3	2.0
Left hand preceding..	.925	.022	.989	.006	159.9	1.8	148.2	2.4

The differences in favor of the following hand are small, but save in one case well beyond the limits of probable error.

CASE IV. Machinist, 59, heredity unknown, grammar-school education. The case is one of rapidly recurring and rather short depressions recurring at intervals of about two years, since their

commencement at 37 years of age. The attack in which the present experiments were made is much the longest of them, having lasted with one slight remission for nearly two years; the patient was well on the road to recovery at the time of making

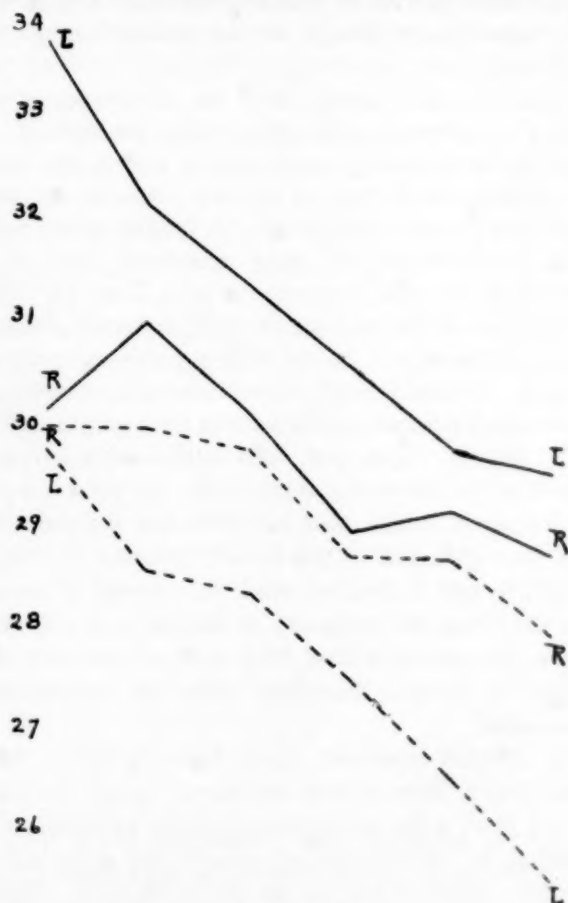


FIG. II.

the experiment, and has since recovered and gone into another depression. There have been no excitements.

Two experiments were performed on succeeding days. On the first-day the patient made a fairly normal appearance, co-operating willingly all the while, though seeming to brighten up

somewhat during the experiment. This experiment took place at 3.30 p. m. The following one was arranged for 10 a. m., and it was arranged that the patient should be left quiet up to this time, with the not unexpected result that the patient's mood was considerably less cheerful at this experiment. The records also reflect a characteristic change in the motor sphere, being as shown in Fig. 11.

As in Case III, there are no clear-cut phenomena of reversal, though the  $f$ 's are considerably greater than the normal. On the other hand there is much greater fatigue loss in the second experiment (dotted lines) than in the first; that is, the individual series show the greater susceptibility to fatigue at the time when retardation is objectively the most prominent, just as did the earlier series of the third experiment with Case II. The most abnormal feature of the records is again, however, found in the transference phenomena. In the first experiment, performed in the afternoon, the right hand record averages somewhat below normal; but the left hand, which follows the right, is much above normal for the left hand, and even considerably surpasses the performance of the preceding right hand. In the second experiment the left hand, which now precedes, has the poorest record of all, but the right, now in the favored position, is much better than the left, though it does not reach its average of the previous day. We thus have an immunity to fatigue and a transference effect above the normal, with a drop in gross rate and increased susceptibility to fatigue associated with an objectively given poorer condition.\*

CASE V. Market salesman, 55, a slight heredity. As a boy, bright and active, learned well at school, which he left at 15 to work in a store. He was quite successful in business, though when about 45 he had a financial setback that gave him considerable anxiety, which, however, he threw off well. During the last few years he has also worried somewhat over dulness in the market.

The present trouble has its origin in a railroad accident, which

\* Cases IV, VI, and XI were patients in the Boston Insane Hospital. For access to these cases and for their histories grateful acknowledgement is made to the officers of this institution.

made him a cripple and necessitated two surgical operations. The shock of the accident and the main operation he bore well, and kept in good spirits until the second, a relatively minor operation, when he became progressively very much depressed, growing nervous and irritable, easily disturbed at the slightest noise. Then hypochondriacal delusions began to develop, and there was an attempt at suicide, after which he became more depressed, and

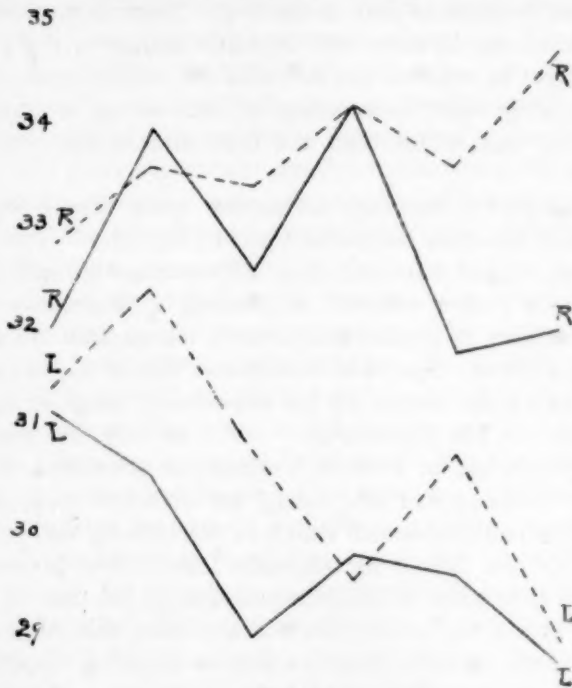


FIG. 12.

was removed to an institution. On admission to the McLean Hospital, 17 months after the onset of the psychosis, the patient was restless, irritable, hypochondriacal, complaining of great fatigue. He mentioned feeling worse *at night*. Some improvement was noted during the next month, after which his condition remained about stationary. Two experiments were performed about 15 months after the patient's admission, the curves running as shown in Fig. 12.

It is interesting to note that in spite of the fact that this pa-

tient complained greatly of the exhaustion induced by physical effort, he actually showed a little better performance than the normal, and this precisely because of an almost absolute immunity to fatigue losses. The right hand shows a considerable amount of reversal, the curve of the second experiment being more typically reversed than that of the first, though the  $f$  is equal in each record. The left hand also shows more tendency to reversal in the second experiment than in the first. There is no transference phenomenon, nor is there any objective change in the patient to which might be referred the fact that the second experiment, besides showing more overcoming of retardation, averages from five to six taps better than the first, and is also much more constant.

The records in this case correspond quite closely with those obtained in the sixth subject of Specht (Vp. M.).<sup>\*</sup> This subject, an entirely typical traumatic case, differentiates himself markedly from Specht's other subjects in showing a progressive increase in the efficiency of performance exactly comparable to that noted in the case above. Specht also attributes this to *Hemmungswirkungen*, which the course of the experiment tends to overcome. He writes: "Die Hemmung . . . ist hier im Beginn der Arbeit grösser als im weiteren Verlauf; sie schwindet nicht, aber in ihrer Wirkung auf den Gang der Arbeitsleistung wird sie durch die arbeitsfördernden Einflüsse der Uebung und möglicherweise auch der Anregung abgeschwächt." The present result would seem to point to this interpretation in the case of Specht's subject, M., as the correct one; at any rate, this subject represents a totally different fatigue condition from his remaining five subjects, and one which corresponds much more closely to that observed in manic-depressive depressions with the tapping test here, and with the addition test itself by Hutt. However, the clinical data given by Specht mention nothing in favor of a manic-depressive condition for this case. In the present subject the diagnosis was more doubtful. There was a far from positive history as regards previous attacks, and this, coupled with the obvious origin of the symptoms, together with irritability and complaint of exhaustion, pointed to a traumatic neurosis. On the

<sup>\*</sup> Specht: Ueber klinische Ermüdungsmessungen, Arch. f. d. Ges. Psych., III, 1904, pp. 316-318.



other hand, there were no anæsthesias or paræsthesias, and the presence of a thinking disorder and inadequacy pointed at first in the direction of manic-depressive. The further history of the case, which has failed to improve, indicates that clinically it satisfies better the present conception of a traumatic neurosis.

There are, then, two possible interpretations of these two cases: If the normal situation in traumatic neurosis is exceedingly great fatigability, as Specht has found it, and the manic-depressive depressions are apt to exhibit reversed curves, as Hutt and the writer have found, the indications for these two subjects are rather in favor of a psychosis upon a fundamentally manic-depressive basis, but with a more or less accidental traumatic coloring. There is the alternative possibility that traumatic cases may occasionally show the same phenomena of retardation as the manic-depressive, without its having any further influence on the clinical picture.

CASE VI. From a differential standpoint, this is perhaps the most interesting of the cases presented. The patient is a man aged 20, no occupation, slight heredity. As a child he seemed to be perfectly normal, but did not get along well during the latter part of his school life, being unable to keep up with his classes, and has of late been growing "nervous." For the past three or four years he has had an enormous appetite. About six months before admission he became very restless, moved about quickly, would tip over furniture, and so on, and kept constantly on the move, though he sometimes assumed strange positions. About three weeks before admission he said that he saw his father, who had been dead for six months, and for two weeks previous he destroyed his clothing and was very careless in his habits. He was noted to talk to himself.

When first seen by the writer his appearance was downcast and melancholy. He would hardly answer questions at all, and then only very slowly and briefly. He said that he felt blue. When asked if he felt better any particular time of the day he said that he felt better in the afternoon. The immediate picture was one of depression rather than one of apathy, suggesting the more frequent condition in youthful manic-depressive cases, in which the retardation tends to outweigh the affective depression, and his conduct during the experiments was in conformity with

this interpretation. He did not speak spontaneously, and from the time of the experiments until he was next seen he was reported not to have spoken at all. At this time he came into the room slowly, looking not so much depressed. Asked if he had ever seen the speaker before he replied, "Yes." "How long ago was it?" "About two weeks—no, longer; it must have been five or six weeks ago." (Approximately correct.) Asked what he did at this time he said, "Tapping," also making the motion with his hand. He then lapsed into his former inaccessibility, sitting immobile, with head hung down, and nothing further could be gotten from him.

Clinical notes of the patient's condition at and about this time are as follows: "The patient has a dull facial expression. He sits about in a dull, apathetic manner. The saliva drools from his mouth, and he remains in fixed attitudes for long periods of time, is very resistive, and does not dress or undress himself, and at times shows considerable negativism. Occasionally there are times during which he is active, and during these spells he does undress himself and tears his clothing." This covers the patient's condition during September, October, and November, 1908. During December he is reported to have shown considerable improvement. "There is at present considerable retardation of both psychical and physical activities, but he is able to answer questions fairly well. Memory and orientation seem to be quite good. He has taken on considerable flesh of late, and is gradually becoming more active and doing some light work about the ward." Three months later: "The patient continues to show a slight, gradual improvement. At present he takes considerable interest in his surroundings, reads the newspapers, has parole, and does considerable work about the ward. Some retardation exists in his mental and physical condition." And again, a month later, "The patient is showing gradual improvement, is at present doing some work about the grounds, but is rather slow in all his movements, and does not show a normal amount of interest in his surroundings. There is some retardation of both mental and physical activities."<sup>a</sup>

<sup>a</sup> Since this time the patient has been at home, where he was seen a few days before the present writing, but the data obtained still leave diagnosis doubtful.

So that, as between manic-depressive depression and dementia præcox, we have a previous history that speaks strongly for dementia præcox, a picture at the time of the experiments that showed traits both of a manic-depressive and of a præcox nature, and a course that is much more characteristic of a manic-depressive condition, but by no means excludes dementia præcox.

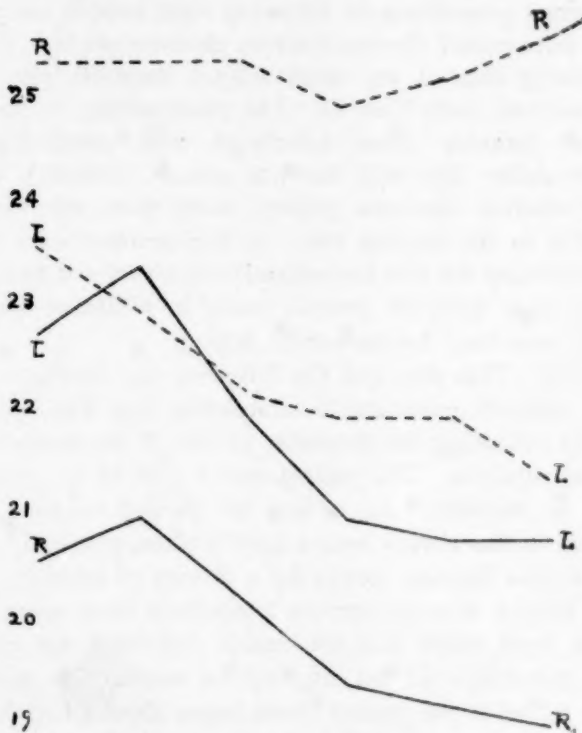


FIG. 13.

The overshadowing characteristic of his condition at the times when he was observed was the slowness and inefficiency of his responses, and the essential point is whether this slowness and inefficiency represented an extreme lack of affective reaction, or if it was the product of a specific retardation of the motor functions. Regarding this question the curves shown in Fig. 13 give some rather significant testimony.

These curves stand considerably closer to what has been observed in manic-depressive than in præcox conditions. The gross rates are below the normal, the  $f$ 's are high, and there are distinct phenomena of reversal, these being in each case more prominent in the following hand, *i. e.*, the left in the first, the right in the second experiment. It may also be noted that in the first experiment the preceding right hand is much poorer than the left. In the second experiment the following right hand is much better than the left; indeed, the transference phenomenon is in this case more striking than in any other subject observed, save in the third experiment with Case II. The abnormalities in these records are distinctly those associated with manic-depressive depression rather than with dementia præcox; indeed, it is quite doubtful whether dementia præcox cases show any consistent abnormality in the tapping test. In the presence of a specific motor retardation the case has certainly run a very different course from the usual dementia præcox cases, in whatever diagnostic group the case may fundamentally belong.

CASE VII. This case and the following are depressed states showing clinically considerable retardation, but with factors in the history indicating the possibility of one of the protean forms of general paralysis. The patient was a man of 41, veterinary surgeon, no heredity. As a boy, he showed unusual mental ability, and he has always been a hard worker, physically strong, with no serious illnesses except for a history of syphilis. There is also a history of some nervous breakdown three years before admission, from which it is not certain that there was complete recovery, but which did not interrupt his work. The symptoms definitely related to the present illness began about a month before admission. He seemed to be losing interest in his work, would often be very irritable, and quickly get over it again. Appetite and weight were falling off. There were no known fainting attacks nor seizures. Physical examination was negative, though lumbar puncture showed a marked excess of small lymphocytes. The experiments were performed about four months after admission, and the patient remained under observation for about 10 months after this, when he was transferred, his condition remaining practically stable up to the present. During observation he

was fairly clear, his memory was good. No great emotional depression was evident on the surface; the one prominent and fundamental symptom seemed to be a marked and typical retardation. The curves are as below.

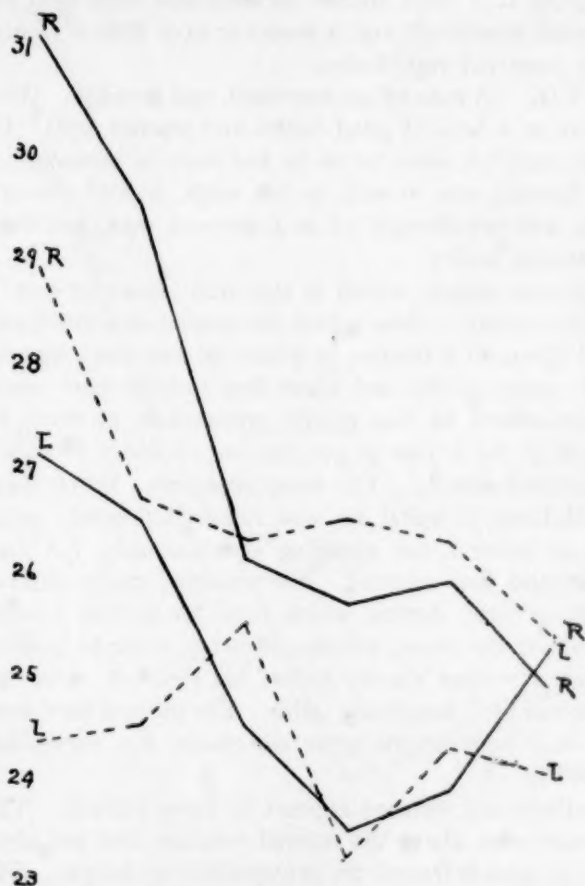


FIG. 14.

The curves are remarkably inconstant in form. The second experiment shows much less fatigue than the first, and the left hand much less than the right. One of the records shows considerable reversal, but the individual series are very irregular, and the statistical correspondences with the certain manic-depres-



sive records are quite likely to be a product of chance. There are a good many failures of innervation, as long periods of pressure and release, and these seem to be more marked in the earlier portions of the series. The performance is distinctly a pathological one, but it is more similar to what has been seen in coarse neurological conditions, and it seems to give little evidence of the clinically apparent retardation.

CASE VIII. A man of 42, merchant, bad heredity. Was bright and active as a boy, of good habits and learned well. He went to school until 18, since when he has been in business. He has applied himself very closely to his work, hardly ever taking a vacation, was not thought of as a nervous man, and has shown good business ability.

The present attack, which is the first, seems to date back to some self-accusatory ideas which the patient developed regarding the fatal illness of a relative to whom he was much attached. He began to sleep poorly, and about five months later went to an institution, where he was mostly unoccupied, at times resisting the efforts of the nurses to get him out of doors, though he was not violent nor suicidal. His sleep improved. When transferred to the McLean Hospital he was rather depressed, unoccupied, showed no interest, not speaking spontaneously, but answering questions, and was oriented. He remained under observation a little over a year, during which time his mental condition remained about the same, perhaps showing a slight improvement, and again a relapse shortly before his removal, since when his condition has been practically stable. The present tests were made a little over two months after admission, the curves being as shown in Fig. 15.

No pathological element appears in these records. The gross rate is somewhat above the normal average, but not abnormally so, and the same is true of the susceptibility to fatigue. There are certain characteristics in the experiments that usually appear in normal individuals only after some practice, though no history of such practice was obtained. Although the second experiment is slightly inferior to the first (as is usually the case with normal individuals), the clinical notes indicate a slight improvement in the patient's condition during the week between the experiments. Whatever may be the correct diagnosis in these two cases, the

results strongly indicate that there is a type of retardation in which the motor work-curve is not affected in the same way as in the more characteristic retardation of manic-depressive depression.

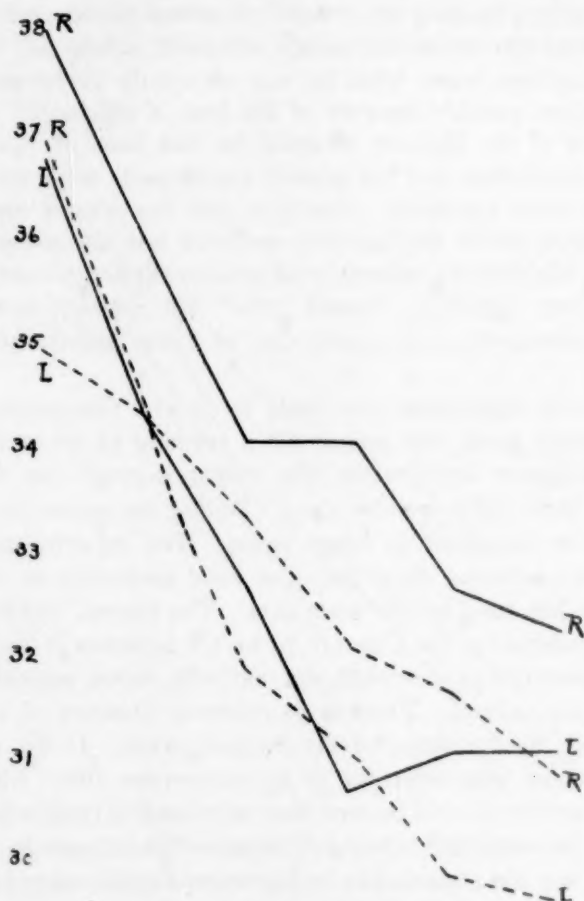


FIG. 15.

CASE IX. It is, of course, a clinical commonplace that retardation is not a necessary accompaniment of emotional depression; various conditions are seen in which the depression is accompanied by considerable activity, as in the mixed states of manic-depressive insanity or in involution melancholia. From this point of view the

records of three agitated depressions may be presented for comparative purposes. The first of these is a man of 58, bookkeeper, no heredity. He learned well at school, and after a short period as a bank clerk became a bookkeeper, holding a single position for the 30 years preceding his illness. It seems that a year or two previous to this attack his ability had been falling off, but the acute symptoms began when he was summarily discharged from the position, possibly because of his loss of efficiency. Before admission to the McLean Hospital he had been 18 months in another institution, and the present experiments were made just one year after admission. Nearly a year has elapsed since this time, during which the patient's condition has not changed materially. He presents uniformly a typical involution picture, showing anxiety, agitation, "moral pain" but not self-accusation, suicidal tendencies, and a good deal of motor activity and restlessness.

The usual experiment was made 10 times. Co-operation was exceptionally good, the patient often seeming to go at the test as a temporary substitution that might distract him for the moment from his depressive ideas. During the pauses he would often grow impatient to begin again. Ten experiments were made, on successive days, the right hand preceding on the odd days, the left hand on the even days. The curves, calculated in the same manner as for Case III, p. 24, are as shown in Fig. 16.

The gross rate is somewhat, not markedly, below normal, while the  $f$  is just normal. There is no evidence whatever of a motor retardation in the shape of the fatigue-curves. If the records are examined with reference to a transference effect from one hand to another, it will be seen that each hand is relatively better when it precedes than when it follows. This is seen in normal subjects, but the phenomenon in this case is much more marked; it is the precise opposite of the transference that is seen in manic-depressive retardation. Its character is illustrated in the curves shown in Fig. 17, which are plotted in the same manner as those for Case III.

The curves of total efficiency and for the index of right-handedness run in precisely opposite directions to the corresponding curves in Case III, who, it will be remembered, was a case

showing a first attack, at the involution period, of a typically manic-depressive character. In the present case the curve of the right hand rises on the odd days, when it precedes, and falls on the even days, when it follows; while the curve of the left hand falls on the odd days, when it follows, and rises on the even days, when it precedes. The index of right-handedness shows again

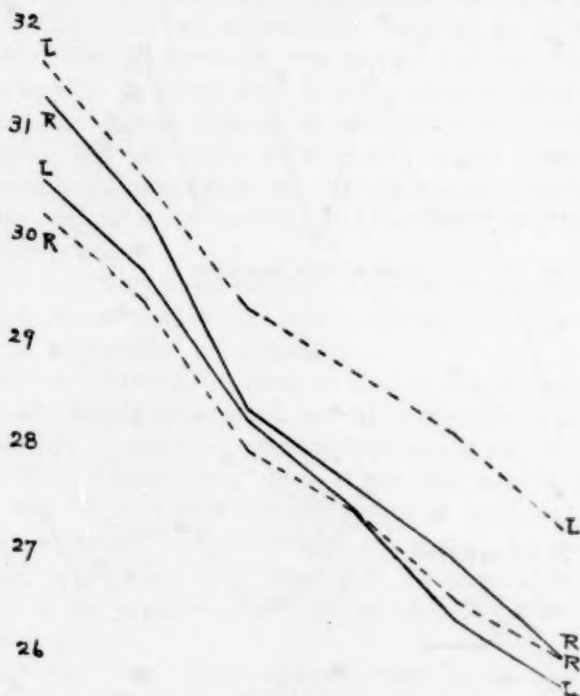


FIG. 16.

a precisely opposite alternation from that of Case III, but the fatigue phenomena show nothing of significance.

It will be remembered that in Case III it was possible to trace a certain correspondence between the total efficiency curve and the fluctuations in the patient's condition. In the present case there were fluctuations in the patient's behavior even more marked than those noted in Case III, but they have left absolutely no trace on the results. These fluctuations consisted in a cyclic exacerbation and subsidence of the agitated symptoms on alternate days.

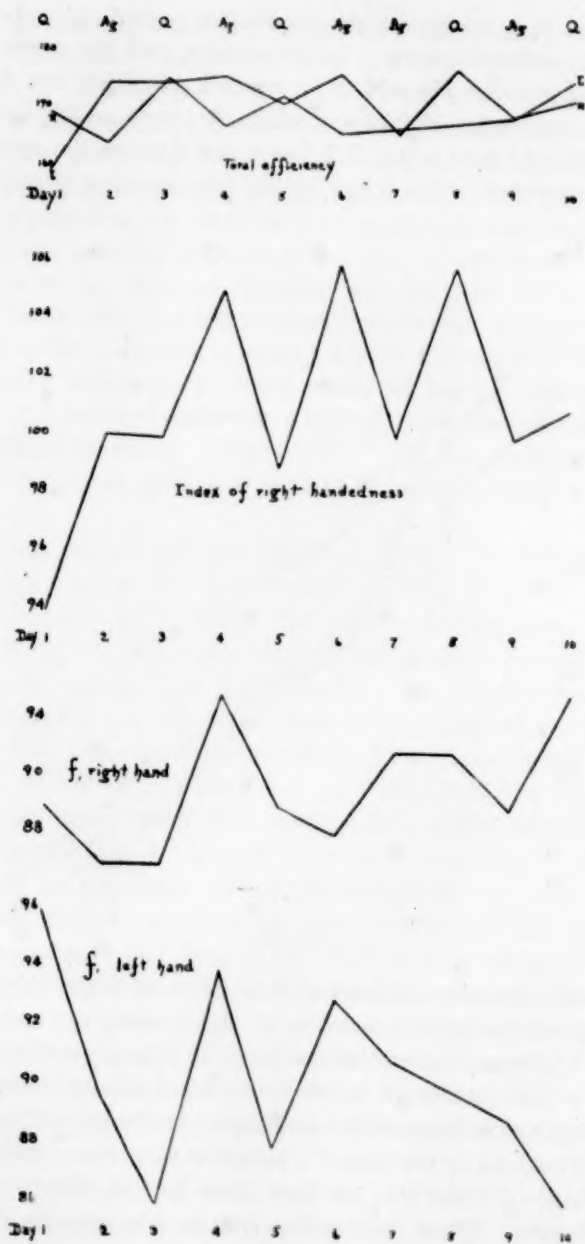


FIG. 17.



This may be illustrated by the brief daily notes of the patient's attitude, running substantially as follows:

October 12, 1908. The subject entirely co-operative. Agitated and depressed but quite clear, and talks a little on general subjects, asking for example about the possibility of the Bulgarian tangle resulting in a European war.

October 13. Much more active and apprehensive and less clear than yesterday. Talked unceasingly, begging to be released. Complained that his breathing was painful and that his bowels were paralyzed. Was impatient to begin every fresh series.

October 14. Not so agitated as yesterday nor so calm as the day before. Did not ask to be released. Asked questions and made remarks spontaneously on various subjects, these giving rather the idea of an attempt to get away from the background of the depression.

October 15. Very much agitated, with continual motor activity. Begged to be allowed to go home, offering the experimenter \$10,000 to recommend his discharge.

October 16. Very quiet, more so than at any time during the experiments, hardly spoke at all, except to himself.

October 17. Agitated, a good deal of motor activity, and apparently more "moral pain" than at previous interviews.

As it was reported that this alternation of quiet and agitated days was a regular occurrence with the patient, no experiment was made on October 18 in order that the same precedence of the hands in the experiments should not be confined to depressed or agitated days.

October 19. Very much agitated, more active than at any previous time. Paced the floor continually, offered the experimenter \$1000 an hour to let him go home for 48 hours. Also tried to induce the nurse to aid in his escape.

October 20. Quiet, did not get up out of chair. Not nearly so agitated, and showed more ability to rise above the depression.

October 21. After the second series paced the floor continually, twice tried to get into a drawer where sharp instruments were kept, and made requests similar to those above noted about going home.

October 22. Patient quiet. Condition substantially similar to October 20.

The tapping test is ordinarily quite responsive to such changes in condition as are reflected in the behavior here, and its failure to be affected by them in this case is surprising. It may be mentioned that while the patient actually does considerably better with his left hand, he said that it was easier for him to perform with his right, and he also said he thought he did better with it. Though the difference is slight, the preferred hand shows in the

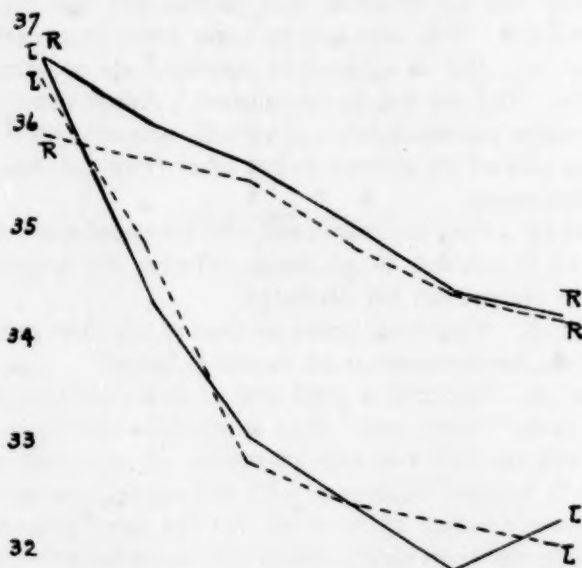


FIG. 18.

long run the greater immunity to fatigue, as we are accustomed to find.

CASE X. A man aged 78, retired merchant, some heredity, early history negative. He was successful in business, from which he retired at 63 on account of "nervous prostration." For about five years before admission he was somewhat eccentric and inclined to be ugly toward his family, but about a month before admission his attitude changed and he became very affectionate. This lasted for about three weeks, when one night he performed a number of eccentric actions, finally culminating in a feeble

attempt to kill his wife. When it was suggested that he should come to the hospital he was at first willing, but later became irritated and uncontrollable, and escaped from the house to a pond where he made a weak attempt to drown himself. Here he presents a picture of irritability, a few feeble persecutory delusions, and a tendency to malingering, but with alertness and no marked memory defect. Two experiments were performed about six weeks after admission, the results being as shown in Fig. 18.

The gross rates are distinctly above the normal and there is neither reversal nor favoring of the following hand. The right hand fatigues very little, but there is partial disability in the right arm, due to its once having been broken, so that what we have here may be analogous to the latter part of the fatigue-curve, the higher initial rate that we should have had being lost. The left hand begins at about the same level as the right and fatigues normally. These records thus show no evidence of a motor retardation.

CASE XI. A printer, aged 47, bad heredity; has used a great deal of alcohol. The present attack is the seventh. Between the previous attacks he has cleared up sufficiently to work, but his intemperate habits doubtless help to throw him into the successive depressions. The present condition is characterized by considerable emotional depression with delusions. He is always on the move, though his movements are not especially rapid or efficient. He does not speak, but keeps up a low moaning to himself. However, he understood what was wanted in the experiments with surprisingly little difficulty, and co-operated exceptionally well, seeming, like Case IX, to go at the test as a sort of "substitution." In the ward he wore mitts to keep him from tearing his clothing, which were necessarily removed for the experiments, and the entire time of the pauses he would spend picking at himself unless restrained. Two experiments were performed, the second two days after the first, the fatigue-curves being as shown in Fig. 19.

Only one of these curves, that of the right hand in the first experiment, shows an abnormal immunity to fatigue, nor is there sufficient evidence of transference to afford any certain criteria of motor retardation in these records.

The method then fails to demonstrate in these three cases the usual phenomena of retardation, in spite of the fact that the last considered case should probably be assigned to the manic-depressive group in any but the narrowest acceptance of the term.

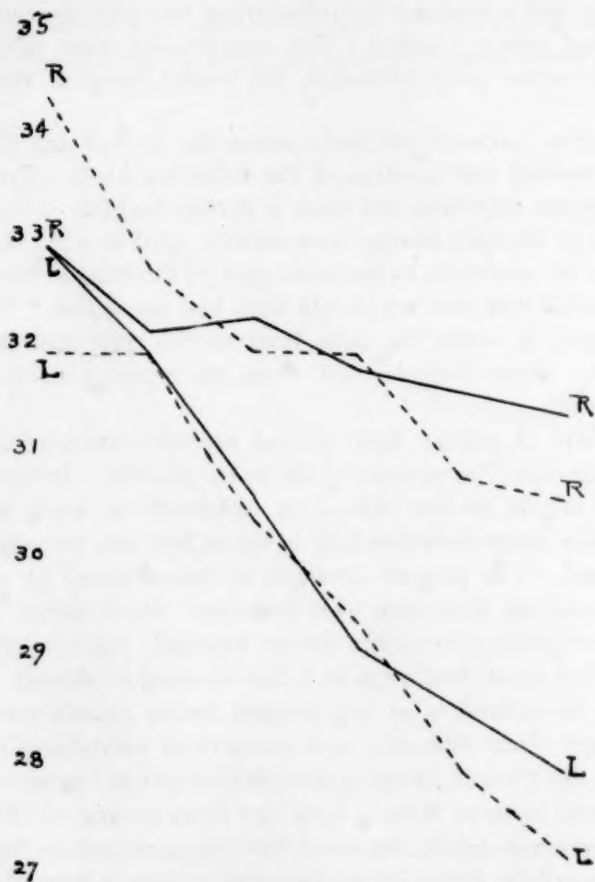


FIG. 19.

### 3. GENERAL CONCLUSIONS.

In order to compare the average performance in the tapping test of normal and depressed individuals, as well as the performance in diagnostic groups in whose symptomatology retardation

does not play a fundamental part, the accompanying figure is presented. This gives the average fatigue-curve in 10 normal subjects, seven manic subjects, six cases of dementia præcox, five of general paralysis, and, finally, that of the 10 manic-depressive cases presented in a previous study. While the individual cases, of course, vary considerably about these averages, it is doubtful

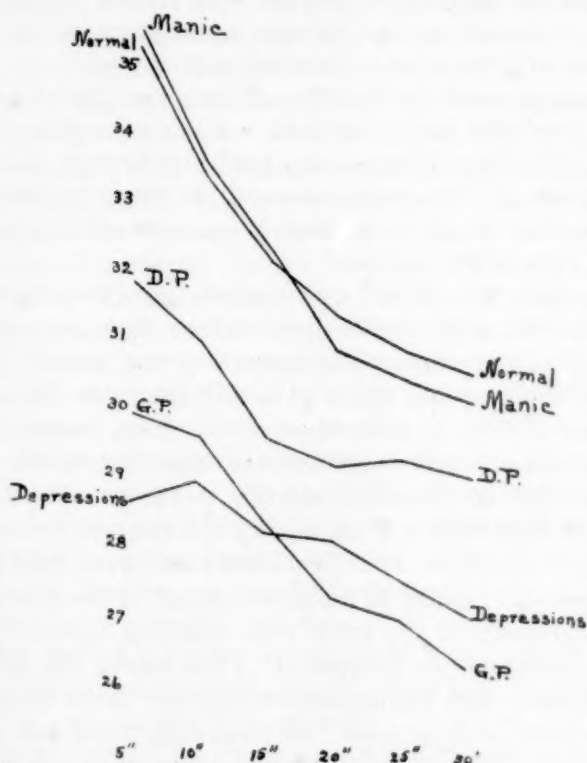


FIG. 20.

if the significance of the results warrants their more detailed presentation in this connection. The principal point in this figure concerns the relation of the manic performance to the depressed.

The results of the manic cases indicate a maximum rate distinctly above the normal. In the cases which showed a real manic excitement the maximum rate was considerably higher, but the average is brought down by two cases who showed a rather



easy-going euphoria, and co-operated with more willingness than zeal. The curve remains somewhat above the performance of normal subjects until half way through the work period, when it drops somewhat below it. Compared with the normal cases, the manic thus show a higher initial rate and a greater susceptibility to fatigue. In the isolated cases in which it was possible to observe the behavior of the test with respect to changes in condition, it seemed also that the more manic states had the higher initial rate with the greater susceptibility to fatigue.

The average curve of the depressed states, on the other hand, shows a very slow initial rate with a slight reversal in the first interval, which then fatigues very gradually through the rest of the work period. The work-curves of the manic and depressed states are thus found to be both in amount and character on opposite sides of the normal.

Franz, using two normal, two depressed, and two manic subjects in various psychological tests, did not find any consistent superiority of the manic performance over the normal; indeed, the manic subjects were apt to be rather inferior to the normal, though not so much so as the depressions. Hutt, however, using the fatigue-curve of the addition test again found the manic performance to be somewhat superior to the normal. On the other hand, while there is in the tapping test observed an increased susceptibility to fatigue, Hutt found that manic cases would gradually increase in rapidity in the same manner as the depressions. There are features in the manic state according to which either of these results can be interpreted. Hutt classes the increased manic efficiency with the increased excitability under stimulation clinically noted in these cases; the abnormally rapid loss in efficiency found in the present experiments corresponds rather to the suspended inhibition of manic cases, leading to the putting forth of greater initial effort, and consequently the more rapid wearing out of the organism. The explanation of the difference probably rests in the character of the experimental task, and the different levels of neural activity which are involved. Objective motor fatigue is generally admitted, while the nature or even the existence of intellectual fatigue is still somewhat in dispute.

Working with the eye movements over a wide range of cases,

Diefendorf and Dodge<sup>7</sup> found the angular velocity in manic cases distinctly superior to the normal. On the other hand, the simple reaction time, as well as the pursuit reaction, was found to be slightly shorter in the normal than in the manic cases. It may be noted, however, that in these two functions the greater distractibility and inferior attention of the manic cases would operate more to their disadvantage. This perhaps explains why, though the manic states are worse, the "hypomanic" are better than the normal in these two functions; the distractibility would be less here and the attention better. They are, however, not quite so quick in simple reaction.

It is the prevalent clinical opinion that the greater superficial activity in the manic state is to be interpreted not as the greater efficiency of the nervous impulse but as the removal of the inhibitions it ordinarily has to overcome. This fact does not itself justify the secondary interpretation sometimes made that psychic capacity is fundamentally decreased in the manic state just as truly as in the depressed. Every clinician of experience is familiar with cases who make much better superficial impressions, and who in some instances may be actually regarded as more efficient members of society when they are hypomanic than when they are normal. The potentiality of the more efficient reactions is there, but they are normally restrained by inhibitions which the hypomanic condition removes. Thus the taciturn individual who becomes an excellent conversationalist after a few glasses of wine may have the same ideas when normal as when elevated, but in the normal state their expression is inhibited by something that he would probably describe as the thought that the ideas were too trivial to express.

If the essence of the manic state is the removal of inhibitions, it follows as a corollary that maximum efforts must be higher in the manic state than in the normal state. Maximum efforts may not be so easy to obtain, owing to distractibility, nor may the reactions be so well adjusted to the environment, owing to clouded judgment. But the inferiority that manic cases are very apt to show in psychological tests demanding special co-operative effort is probably mainly secondary to the first of these factors. If as

<sup>7</sup> Brain, Vol. XXXI, Part CXXIII, 1908, pp. 451-489.

good "attention" or concentration could be obtained as with the normal state, the maximum performance should be better.

It must probably be regarded as a limitation of the German terminology that it uses the word *Hemmung* to describe both retardation and inhibition. Hoch has indicated this difficulty very clearly\* in his studies of retardation, especially in his employment of the term *resistances* instead of *inhibitions* to describe the process. That psychomotor retardation is the product of excessive inhibition is more than doubtful. Inhibition is opposition, and excessive inhibition is nothing more nor less than a blocking negativism, which is not part of the recognized symptomatology of manic-depressive insanity. This is a difficulty that must be overcome if the strict continuity of the manic and depressed states is to be maintained together with the theory of decreased inhibition in the manic states. We must recognize two factors that may lessen the freedom of a mental or motor reaction—opposition and obstruction. Excess of the former is negativism, excess of the latter is retardation. The crucial question then becomes: Is the manic state a removal of inhibitions or a removal of obstructions? Removal of inhibitions describes the manic state as we know it very well, but excessive inhibitions describes something very different from the retarded state. On the other hand, excess of obstructions describes the retarded state very well, while its relation to the manic state is the same as that of the theory of loss of inhibition. Both viewpoints are compelled to conceive of some process which acts independently upon the primary or the inhibitory impulses, for if they were equally affected the end-effects would remain essentially unchanged. The point is perhaps a minor one, but for the sake of clearness it might be well to examine the objective criteria of obstruction, or resistances, as distinguished from inhibitions, with reference to the more precise analysis of the manic state.

Such phenomena of retardation as appear in the dementia *præcox* cases observed are objectively differentiated from the depressive ones in that they appear more episodically, almost fortuitously, as it were, affecting one hand and not the other, or only individual series with a single hand, as distinguished from

\*Hoch: On Certain Studies with the Ergograph. *Journ. Nerv. and Ment. Diseases*, XXVIII, 1901, p. 626.

the manic-depressive retardation whose manifestations are more consistent throughout. However, while there have not been observed outside the depressed states instances of the phenomena of retardation which did not seem to have objectively a different origin from those regularly observed within the depressed states, yet the possibility must be granted that the retardation measured in these experiments may be a symptom of many mental diseases, possibly in much the same way as a rise in temperature is a frequent accompaniment of bodily disorders. We do not discard the clinical thermometer because it will not immediately distinguish between the fever of a typhoid and the fever of a pneumonia; nor need the measurement of retardation lose its clinical significance because it will not serve the purposes of penny-in-the-slot diagnosis.

To briefly recapitulate. The measurement of such elementary functions as are given in the ocular reaction times, the ocular pursuit movements, or the tapping test and the like, affords the most unequivocal criterion of motor retardation that it is at present practicable to obtain. The criteria of motor retardation as illustrated by the tapping test are (*a*) a lowered absolute rate, (*b*) a rise in the work-curve where it should normally fall (reversal), (*c*) a relative gain over the normal in the efficiency of the work that comes later in the experiments (transference). Case I, superficially characterized mainly by fixed ideas, illustrated marked phenomena of retardation under the conditions of the experiment, indicating the existence of a more fundamental psychic disturbance to which the fixed ideas are secondary. Later, this case showed extreme instability of the phenomena of retardation, which markedly decreased through the experiments, a progressive change which the mood tended to parallel. Case II illustrated a pronounced motor retardation, probably without much thinking disorder. Here there were also to be noted characteristic fluctuations as the experimental work progressed. Case III was mainly significant in showing that the phenomena of retardation might appear characteristically in a first attack at the involution period, in giving an especially clear-cut illustration of transference phenomena and further reflecting episodic changes in condition.

Case IV illustrates the effect of an objectively given condition of retardation in accentuating the phenomena of transference and



lowered absolute rate. Case V illustrated certain phenomena in retardation in a depression of immediate traumatic antecedents, and with other clinical characters of the traumatic psychosis. In Case VI the characteristic phenomena of manic-depressive retardation appeared in a case showing otherwise many dementia præcox traits, but whose subsequent course was more favorable than is usually to be anticipated in this condition. In Cases VII and VIII a considerable clinical retardation failed to reveal itself in any characteristic way experimentally; in each of these cases the possibility of a general paralysis had been considered. Case IX is a classical involution depression whose deviations from the normal are in the opposite direction from those of the manic-depressive depressions. No retardation is shown and, save for the lowering of the gross rate, the performance resembles that of the manic cases more than that of the typical manic-depressive depressions. The performance is also practically unaffected by considerable fluctuations in the superficial condition. Cases X and XI are presented in this same connection, as agitated depressions not showing retardation; and affording, with the three previous cases, experimental indication that emotional depression involves retardation no more necessarily than retardation involves emotional depression. Each is seen fundamentally and independent of the other, though either may be secondary to the other.

The cases of dementia præcox and general paralysis show little or nothing of significance, but the manic cases tend to show an increased initial rate and a heightened susceptibility to fatigue, the exact reverse of what is shown by the retarded cases. When the psychological measure can be made sufficiently independent of special factors in co-operation it is probable that the optimum performance of manic states is quite superior to the normal as well as the depressed. Insufficient light exists on this question, however, a satisfactory treatment of which is possible only in the study of a group of circular cases through various periods of depression and excitement. Since the essentially retarded state is almost certainly an over-obstruction, not an over-inhibition, of the reaction, the manic state may also perhaps be better interpreted as the loss of normal and teleological obstruction to the primary impulses rather than to the loss of an inhibitory faculty usually exercised by the opposite impulses.



## A CASE OF SCHIZOPHRENIA (DEMENTIA PRÆCOX).

### AN ANALYSIS.

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A. St., 20 years old, law student and journalist, was admitted to my service in the clinic of psychiatry, Zurich, on January 22, 1908. His friend and colleague stated that patient was a Hungarian journalist who came to Zurich to study law. He was considered very diligent and brilliant but somewhat eccentric. He seemed to have been depressed for some time, remaining in bed for days, taking very little nourishment, but for the last two days he showed some improvement. He attempted to shoot himself at about 12 noon. He discharged five shots and beyond grazing his shirt, maiming a candle standing near his bed, and a picture of Ibsen on the opposite wall, he did no damage. The reason for the attempted suicide was supposed to be unrequited love. In the beginning of December he made the acquaintance of a lady student with whom he soon became infatuated. His love was not reciprocated so that he became despondent, neglected his work, and uttered pessimistic and gloomy ideas. The informant stated that as soon as the shots were heard he ran into the room and found patient lying in bed in a delirious condition; he was confused, murmured to himself, and asked meaningless questions, repeating, "Where are the white horses?" The last question he also repeatedly put to the physician who was called in soon after the shooting.

An anamnesis was also obtained from patient's father about a week later. He denied any psychic abnormalities in the family, but he himself was neuropathic, and it was afterwards learned that one of his daughters was hysterical. He stated that patient

was always somewhat delicate but developed normally. As he grew up he was "indifferent, cold, seclusive, and obdurate, but very bright"; he was always at the head of his class. His teachers referred to him as a prodigy, and his professors predicted a great future for him. At a very early age he manifested a great talent for writing, and since his fifteenth year he had supported himself by journalism. His feuilletons are sought for by the leading Hungarian journals. Due to the divorce of his parents, he had lived apart from them since his fifteenth year; he however kept on corresponding regularly with his father, and even paid him an occasional visit.

On admission patient was exceedingly apathetic, and took absolutely no interest in his surroundings. When addressed he showed some confusion, he seemed to be unable to comprehend the questions, and his answers were monosyllabic and laconic. He did not care what would happen. "Do what you please," he would say. In appearance he was under-developed and small, his head seemed to be too big for his body, probably due to his long, black hair hanging over his shoulders. The physical examination revealed nothing in particular. In the ward he was quiet and indifferent; he lay on his back motionless, either keeping his eyes shut or staring vacantly into space. He expressed no desires, and when an attempt was made to draw him into conversation he became mute. He took but little nourishment, and this only after much urging. When seen the next morning he was essentially unchanged. The nurse reported that he slept well, but paid absolutely no attention to anything.

The main features were dullness, apathy, and somnolence, and probably hallucinations, as shown by his asking for white horses. This condition continued for four days, after which he gradually became brighter, and at the end of a few days more he was apparently his former self.

He was discharged, on January 31, to go to Vienna with his father. Diagnosis: Schizophrenia.

We have here a precocious youth, slightly burdened by heredity, who, having been disappointed in love, loses his mental equilibrium and merges into Schizophrenia. He makes an unsuccessful attempt at suicide, and later he is delirious and hallucinatory, uttering senseless stereotyped sentences. This is followed by a short

period of apathy, mutism and dullness, after which he gradually improved.

In hospitals where individual psychology is not considered, where beyond Kraepelin there is nothing in psychiatric achievements, the above abstract would be quite sufficient. To be sure the case could be elaborated upon, a detailed description of the various incidents could be given, but no matter how extensive and detailed it might be made, if we followed Kraepelin, the personal factors would be very meagerly, if at all, considered. Indeed, Kraepelin, in all his works, gives very accurate and faithful descriptions of his cases, but he does not go beyond that. It makes no difference what the nature of a special case may be as long as it fulfills certain conditions as regards the emotional status, morbid perceptions, delusions, mannerisms, etc., in other words, Kraepelin totally ignores individual psychology.

The Zurich school was the first to break away from the Kraepelinian limited paths. Based on experimental psychology, and on the new and invaluable psychology of Freud, all amenable cases are thoroughly analyzed and the relations between cause and effect are shown. In this manner every case presents its special interests and individual grouping. Following those methods an effort will be made to analyze the above case.

As soon as conditions were favorable an attempt was made to draw patient into conversation so as to have him explain some of the obscure points, but, as is generally the case, nothing of importance could be elicited. He was suspicious or simply unwilling to enter deeply into the questions. A hundred associations were therefore taken and analyzed by the Freud psychanalytic method. The words employed are the usual 100 words used for analytic and diagnostic purposes; some of the words, however, were changed and others bearing directly on the incident were inserted. For those unacquainted with this method the following brief explanation will suffice:<sup>1</sup>

\* The stimulus word is uttered by the examiner, and the patient is told to answer the first word suggested to him by the stimulus. The reaction time is measured on a  $\frac{1}{5}$ -second chronometer. After all the 100 words are gone through the process is repeated without however measuring the time. The average reaction time is generally taken as 2.4 seconds. On giving a number of test words

it is soon found that not all stimulus words are reacted to with the same smoothness and facility. We may have a prolonged reaction time, a lack of or faulty reaction, or a failure of reproduction. All these are complex indicators, they show that the stimulus word has touched a complex, and thus retarded or totally inhibited the reaction. In his "Diagnostische Assoziations Studien," Jung shows that all apparently adventitious mistakes in the association experiment have a definite reason, and that contrary to the belief of the test person, his answers are not at all arbitrary, but generally betray his most intimate secrets. The value of this experiment is quite obvious, whereas the patient may refuse to enter into conversation he is quite willing to answer the first word which the stimulus evokes, as he is totally unaware of its import, and if the association is correctly interpreted by the examiner the resistance is invariably broken, as the patient readily recognizes the superiority of the examiner and generally begins with such an expression as, "Since you seem to know it, I will tell you the whole thing." To be sure this is not as simple as it seems; above all it requires much experience, and a knowledge of Freud's method is indispensable. No psychology, to my knowledge, exposes the mind as do Freud's "Psychopathologie des Alltagslebens"<sup>12</sup> and "Die Traumdeutung."

The following are some of the associations obtained from the patient:

Stimulus word.	Reaction.	Time.	Reproduction.
4, to suppose .....	freedom .....	3.8".....	+
5, pain .....	bad .....	2.2".....	+
6, lazy .....	early .....	1.8".....	+
7, moon .....	sun .....	2.6".....	+
12, to frighten .....	epilepsy .....	3.4".....	+
14, tired .....	rest .....	2.0".....	+
15, intention .....	evil .....	2.8".....	+
16, to dance .....	Polish .....	3.0".....	+
17, eye .....	eye .....	3.8".....	+
19, to aim .....	I .....	3.8".....	candle

R. 4, to suppose—freedom—refers to his complex of confinement; he supposes that he will soon be discharged from the hospital. R. 5, pain—bad—explains that he had much pain over this



love affair, but as shown by the reaction time it provoked no emotion whatever. R. 6, lazy—early—refers to his being lazy, never likes to rise mornings, also recalls that he was too lazy to commit suicide in the morning and waited until noon. R. 7, moon—sun—is explained as follows: While walking one day with Mina (his beloved) they stopped to look at a photograph representing a man and woman riding on a crescent (moon). At that time the position of the two young persons on the crescent rather pleased him, and he remarked to her that he would like to ride with her on the moon—then recalls things which he does not wish to explain—probably some erotic thoughts. R. 12, to frighten—epilepsy—refers to an incident in the ward; an epileptic had a fit which frightened him, as it was the first time he ever saw any such thing. R. 14, tired—rest—have been—refers to his state before admission to hospital. R. 16, to dance—Polish. This reaction is explained as follows: "Saturday eve, December 7, I went to the Polish dance where I met my three lady acquaintances, Heda, Mina, and Dina. My main object in going there was to gather some material for an article on the life of the Russian and Polish students in Zurich." He stated that when he got there he saw Miss Dina, whom he had known some time, in the company of some gentlemen. He was not indifferent to her; he always found "something pleasant in her"; she impressed him differently from the others because she was rather outspoken. On a number of occasions she did not hesitate to tell him that he was only a poser, etc., a thing which rather wounded his vanity, but yet he does not know why she continued to be of more interest to him than the others. For some reason when he noticed her at the dance, he purposely turned in another direction, but did not lose sight of her. On that evening he felt some change coming over him. Of a usually cynical and taciturn disposition, he suddenly became very cheerful and loquacious; the music exerted an unusual influence on him; he said and did things which are still enigmatical to him; the women especially pleased him, and realizing this the words of Mephistopheles recurred to him: "Du siehst mit diesem Trank im Leibe, Bald Helenen in jedem Weibe." Many women seemed to make advances to him; they sent him all kinds of notes and made flat-



tering remarks about him. One elderly lady made such remarks as "Just see this handsome boy," etc.; another lady, totally unknown to him, sent him a senseless note about "loving, human, and erring." Another sent him a gillyflower. On later losing his necktie he stuck this flower into his collar and wore it thus for the remainder of the evening. Another peculiar action was this: Everybody was requested to wear numbers, which were distributed to all present, and the gentleman and lady drawing the same numbers were supposed to exchange souvenir cards. When he received his number he scratched it out and wrote on it a big "I," and this he wore the whole evening. He further recalled that he was very restless for a few days previously; he spent money uselessly, went to many concerts, felt freer than usual, and thought of traveling. R. 17, eye—eye—refers to his own eye; he thought that his left eye was somewhat smaller than his right, and this he considered a sign of paresis. This gave rise to a number of hypochondriacal and depressive ideas. In a letter written to his father long before this suicide episode took place, he signed himself "Candidate for Paresis." R. 19, to aim—candle—explains as follows: "At the moment that I grasped the revolver I felt some fear but aimed it at my breast. The discharge confounded me. I was convinced that I struck myself and dropped the revolver, but I immediately grasped it again and fired four times. I seemed to look for something to aim at. I remember distinctly aiming at the candle standing not far from the window, and at a picture of a bust of Ibsen on the opposite wall." More of this later.

Stimulus word.	Reaction.	Time.	Reproduction.
22, modest .....	violet .....	3.2" .....	+
23, ground .....	seed .....	4.6" .....	onanism
27, death .....	accidentally .....	3.0" .....	+
30, bad .....	very .....	3.2" .....	night
34, pretty .....	fairly .....	2.0" .....	+
40, to crack .....	arms .....	2.0" .....	+
47, weapon .....	unskilled .....	3.6" .....	+
48, forget .....	love .....	3.0" .....	+
51, to dare .....	to win .....	3.8" .....	+

R. 22, modest—violet—is explained as follows: "The violet is a symbol of modesty. Miss Dina always repeated that I was not

modest. Many people reproached me for the same thing, but I always sought refuge in Goethe, who says, 'Only scamps are modest.' R. 23, ground—seed—onanism. By way of explanation he quotes the Bible: "He (Onan) spilled it on the ground lest that he should give seed," etc. When asked whether he masturbated he at first denied it, but when told that the associations gave distinct evidence of it, he said: "Well, since you know it, I may as well tell it. I began to masturbate when I was 14 and continued it up to about a year ago; I then knew what harm it did me and I stopped it." When asked in what way it affected him, he said that he read or was told that one is liable to get paresis and many other diseases from it. R. 27, death—accidentally—refers to his attempted suicide. He fitly remarks: "I could have died through accident." R. 30, bad—very—night—refers to the night of January 15, which he claims to have passed very restlessly. He was frequently terrified by his rocking chair, the coverings on which made him think of the dying Bajazzo. On the 12th Mina and the others went to see Bajazzo. He was to have gone, too, but at the last moment he changed his mind and remained at home. This also recalls a conversation with Dina. She told him that his mania for originality, etc., was simply a desire to pose. He retorted by saying: "But don't you think that there is something tragic even in the poser, in the comedy-playing Bajazzos? If they really perceive the real feeling, such apparent comedies may sometimes lead to tragedies." R. 34, pretty—fairly—refers to Mina. R. 40, to crack—arms—means the revolver with which he attempted suicide. This recalls his friend R., concerning whom he read that he blew his brains out. This happened some time before the Polish dance, and on the day of the dance he received a letter from him describing the attempted suicide, and stating that it concerned a woman, and that he was well. R. 47, weapon—unskilled—refers to himself. He said, "I never in my life used any firearms, and when I made up my mind to kill myself I selected a pretty little revolver." R. 48, forget—love. He said, "I am trying to forget my love." R. 51, to dare—to win—was not explained; he began to speak about courage and daring, and he suddenly stopped not wishing to continue.

Stimulus word.	Reaction.	Time.	Reproduction.
54, quick .....	to press .....	2.4" .....	+
55, child .....	big .....	3.2" .....	+
56, enjoy .....	life .....	2.2" .....	+
61, stone .....	to cast .....	2.2" .....	+
80, to understand .....	saying .....	3.6" .....	+
83, sofa .....	to sit .....	2.8" .....	girls
87, snake .....	Eve .....	3.4" .....	+
94, to write .....	feuilleton .....	3.2" .....	spirit
95, horse .....	ghost .....	3.0" .....	Rosmersholm

R. 54, quick—to press—refers to his suicide; he was frightened when he grasped the revolver, so that he quickly pulled the trigger. R. 55, child—big. Mina often called him a child, which greatly offended him, as he considered himself a man "in every sense of the word." R. 56, enjoy—life. He said, "I was tired of living and wanted to die, but now I would like to be discharged so as to enjoy life." R. 61, stone—to cast—recalls the sentence, "He that is without sin among you, let him first cast a stone." He always condemned people who committed suicide; he never liked a play or book where the heroes ended their lives; he thought of writing a different ending to Ibsen's *Rosmersholm*. R. 80, to understand—saying—"the saying is, 'To understand all is to forgive all,' that is what she said to me when she rejected my proposal. Her friend told me afterward that she was abnormal, and was unable to love any man." R. 83, sofa—to sit—girls—refers to a dream which he had while in the hospital, in which the three girls were sitting on a sofa, etc. R. 87, snake—Eve. "A snake was the cause of Eve's fall; a cat and a snake are symbols of falsehood." Snake made him think of penis. R. 94, to write—feuilleton—spirit—he explains thus: "When I decided to commit suicide I immediately thought of writing a number of articles, one a dialogue, a witty interview between A. St., the collaborator of the *Pesti Naplo*, and his spirit. I also intended to write to Dina that just as Tshepurnoy (refers to Gorky's "Children of the Sun") saved the honor of the veterinary surgeons by committing suicide, I saved the honor of 'the posers.'" R. 95, horse—ghost—*Rosmersholm*—referred to the white horses which play such a part in Ibsen's *Rosmersholm*.

A brief examination of these associations shows that most of them belong to the erotic complexes, a thing usual not only in

the psychopathic, but also in the normal. This is especially true of women in whom, according to Freud, all reveries are of the erotic nature. Let those who disagree with that view analyze their own day dreams and every day actions and see whither it will lead them. We are also struck by the slight emotivity manifested in the associations directly concerned with the love episode; this is especially striking when all the 100 associations are examined. Indeed, whereas the associations evoked very interesting and valuable points, they give us very little information about the principal episode, the supposed cause of this whole drama. The widest emotional excursions are connected with complexes extraneous to this episode. From the 29 associations given 12 (7, 16, 19, 27, 34, 40, 47, 48, 54, 56, 80, 83) bear directly on the drama, and on examination we find that the arithmetical average of the reaction times is 2.8 seconds, a very minimal increase over the normal, and furthermore, there is only one failure of reproduction, and that in association 19. This last, however, does not *sensu stricto* belong to the episode, as we shall see later, so that this reduces still more the average. Translating this into association language we say that the so-called complex indicators are entirely absent where you would most expect them. Indeed, when I reviewed the 100 associations originally taken, I found that the 29 selected are the only associations that in any way concern the case, the other 71 belong to entirely different complexes. This simply indicates that there are perhaps other more forceful factors than the mere love affair, that some invisible psychic undercurrent may play a greater part than the supposed cause—love.

If we orient ourselves on the incidents appertaining to this love affair, we find that long before patient became infatuated with Mina he was acquainted with Dina. In his katamnestic account patient says: "I was attracted to her—Dina—by more than mere sympathy; she was outspoken and called me a poser, but I always liked to be in her company." Some time after he met Mina and Heda, who did not make any particular impression on him, and it was not until the Polish dance that he really became acquainted with them. The first part of the evening he had no predilection, but as the night advanced Mina attracted him more than her friend. On going home the next morning



he walked with Mina, and he still was in the "Hellenic state," very cheerful and frolicsome, but nothing was said of love; there were, however, some allusions to "waltzing through life together," but that was said jocosely and in company. The "Hellenic state" he described as follows: "It seemed to me that I had no ponderance; I felt infinitely light, ethereal, and contrary to my wonted cynicism. I then was infinitely good, well wishing to everything and everybody; I felt neither desire nor wishes, it was a drop of the blessed sea of eternal contentment." This apathetic euphoria continued until Sunday afternoon, when he again met the ladies in the company of a gentleman. For some reason he immediately took a dislike to this man, and his euphoria disappeared.

On returning to his room he felt "confused and could not account for my actions of last night and to-day." He tried to repose for a few hours, as he had an appointment with his friend to take the girls to the theater in the evening, but he was exceedingly restless and unable to remain in his room. That evening he went to theater but did not enjoy it at all. The following days continued uneventful; he frequently saw Mina and her friend in the boarding house, but had no serious thoughts. On the contrary he recalls that on one occasion the thought of love came to him and he immediately suppressed it, saying to himself, "Do not delude yourself, be careful lest you lose your liberty, it would be like committing suicide." It was not until a few days before she was to leave Zurich for her Christmas vacation that he was cognizant of the fact that he was in love. He, however, doubted it. She left on the 20th, and it was then that it became clear to him that he loved her. He was distracted, indifferent to everything, and suddenly conceived the idea to take to his bed. Before doing so he wrote her a letter, in which he told her all and asked for a categorical answer. He remained in bed for three days in succession, during which he ate but little and slept less. He was sure that she would reject his proposal, wept much and was obsessed by anxious thoughts. He then got up and immediately visited Dina. She again accused him of being a poser, and he said, "I am really a thorough poser, I can delude even myself. I could commit most terrible acts, such as marrying or committing suicide." Following this visit



he felt better. Mina's answer was rather equivocal; she "did not know what to say," etc. She returned on the 4th of January, "and strange to say when I saw her not only was I not surprised, but I even seemed to be indifferent." He continued to see her regularly, but they never broached the subject. From the 10th he was very excited and had some fever and spent most of the time in bed. "On the 14th Mina visited me, and during our conversation she told me that she did not think she could be capable of loving anyone. She left me at 11 p. m., the rest of the night I slept fairly well, but dreamed about Dina."

The following days he was very depressed and restless, took no interest in anything, ate and slept but very little. On the 17th, while walking about aimlessly, he suddenly decided to commit suicide, and at the same time he was speculating on the interesting and original letters that he would write before shooting himself. He did not know what he would write to Mina, but thought of writing to Dina, and also a dialogue, an interview between himself and his spirit. He decided to buy a revolver, but "the money that I expected did not come. I then went to see Dina. I wanted to hear her repeat that I was nothing but a poser, but she was not at home." A few hours later he again tried to visit her but she was not at home. The following day—18th—he again called on her, and again missed her. Sunday he passed restlessly, but was watched by a colleague who suspected him. Monday, just about 12 he made the attempt. He waited until he saw Mina and Heda go into the dining room, and then he ran into his room, undressed, went to bed, but did not lock the door, and then attempted suicide, as described above.

#### ANALYSIS.

Strange as it may seem the psychanalysis shows that the love affair played very little if any part in this whole syndrom. No matter how a person may try to conceal things he cannot hide his emotions and unconscious actions. The associations, like dreams, never lie. The complex indicators never fail to show the complex, that is, the emotionally accentuated presentations which are usually split off from consciousness and repressed in the unconscious. On superficial examination it may seem that the psychosis was caused by the love affair, but as soon as we

enter more deeply into the question we are struck with the marked disproportion between the exciting cause and the reaction, and we ask ourselves why should an insignificant love episode produce a psychosis in a young man who has made his way in the world since his fifteenth year as a student and a journalist, and who, from his own account, has had similar experiences before this. To be sure there are those who maintain that just this incongruity between *noopsyche* and *thymopsyche* is characteristic of *dementia præcox*, but one of the greatest achievements of psychoanalysis is the fact that it conclusively shows that in neither the psychoneuroses nor psychoses proper is there such a thing as incongruity between *noopsyche* and *thymopsyche*.<sup>8</sup> Wherever a thorough examination is possible it is always found that the reaction is quite adequate, and that it simply appears incongruous to us because we cannot or do not enter into patient's psyche. Moreover, when we examine our patient's past we find that long before this last experience he was depressed and listless, remaining in bed for days at a time, and evinced many peculiar actions. All this distinctly shows that the love episode was only one of many contributing exciting factors.

On reviewing the 100 associations we find that they refer to four principal complexes, namely, love, vanity, death, and onanism. Of these 35 belong to the death complex, 20 to the complex of onanism, 12 to the vanity complex, and 12 to the love episode. In other words, death and onanism are of paramount importance, while the love episode plays only a subordinate part.

The love complex we have already discussed, and of his vanity, both he himself and his father state that he was always very vain and of an independent nature. He stated, "I am not of an emotional nature, my parents reproached me with being heartless, vain and cold, saying that my blood was as cold as that of an Englishman, and that I was too independent." The wounding of his vanity is always associated with his suicide. In his katamnestic account he stated, "I was suddenly struck with the idea of committing suicide, and I immediately tried to find Dina so as to evoke from her the oft-repeated statement that I was a 'thorough irremediable poser.'" He was also chagrined by Mina because she called him "child"; he insisted that he was a man in the fullest sense of the word.

Psychoanalysis of the complexes of death shows that for some inexplicable reason the patient had for some time, both consciously and unconsciously, occupied himself with the problem of death. When asked to associate freely to the word "death," he gave the following reactions: "When we dead awaken"—recalls his friend the actor, who was supposed to have blown out his brains,—Rosmersholm. On further analysis we find that "when we dead awaken" refers to Ibsen's drama of that title. He stated that for some time this play strongly appealed to him, but since hearing Rosmersholm the latter had exerted a great influence over him. He, however, did not like the last act, and thought seriously of rewriting the play, giving it another ending. He despised people like Rosmer and Rebecca for committing suicide. "They are not people of this world, they belong to the morbid, fanatic and romantic nations." While in the hospital he wrote to the author: "Do I perhaps suffer from neurasthenia, or am I in the first stage of paresis? If so, I will see that it will not progress." In a letter, which he sent to his father long before this love episode occurred, he signed himself "Candidate for Paresis." Moreover, for the last year or so he signed his feuilletons with the following pseudonyms, "Schakal," "Sansdieu," "Enfant Terrible," and "Sansculotte." Those who are unfamiliar with Freud's "Psychopathology of Every Day Life" may consider our patient's use of the pseudonyms as purely accidental, but we have it from Freud that nothing is adventitious or arbitrary, just such trivialities show us the real unconscious activity. These pseudonyms are the equivalent for "I am a jackal, godless," etc., that is, they represent delusions of self-accusation.

All that clearly shows that long before the love episode patient was hypochondriacal and restless. He entertained a number of delusions of a depressive, somatopsychic and self-accusatory nature. He made a number of unsuccessful attempts to stop masturbating, for he thought that it would produce paresis, and when he finally noticed a slight difference in the size of his eyes he became firmly convinced that he was a paretic. He also heard and read much about paresis, and, as we have shown, he soon began to occupy himself with the problem of death, therefore anything referring to it interested him. It was while in that state of mind that he fell in love with Mina, and for a brief

period there was a reaction, the "Hellenic state." This, however, soon disappeared, and long before he knew that his love would not be reciprocated he again became depressed. This love episode was simply the last "straw to break the camel's back," that is, the conflict probably existed for years until finally a compromise formation took place and the result was the suicidal episode.

The situation, in brief, was as follows: "I am suffering from an incurable disease—paresis—which I brought upon myself by masturbation, and as I will become insane I had better commit suicide." Added to that there was the wounding of his vanity by both Dina and Mina. Against all this, however, there was the inherent desire to live. In the language of Jung, the long-existing conflict in a personal predisposition finally produced a splitting of consciousness, or Janet's *abaissement du niveau mental*, thus allowing the repressed complexes to rid themselves of the domination of the ego complex and manifest themselves in the different automatisms of the syndrom.\*

Let us now examine the psychic constellations of the individual symptoms. In the first place we may ask why patient chose this method of suicide? This was directly suggested to him by the shooting episode of his friend, the actor. He, himself, had never before handled any firearm, and there was absolutely no reason why he should have deferred this affair as he did for the purpose of getting money with which to buy a revolver. He had numerous other means within his reach; he could at any time have resorted to hanging, drowning, or poisoning, which would have been easier to accomplish, still he selected a method which was entirely foreign to him. When he bought the revolver he had to ask the storekeeper for instructions as to its use. I have it from Dr. M. S. Gregory, who has devoted considerable time to the subject, that suicides invariably follow a definite procedure. Thus soldiers and others who are accustomed to firearms always select pistols or revolvers for suicidal purposes; physicians, druggists, and chemists invariably use poison, while ordinary people always follow some method suggested by suicidal incidents read in the daily press, or they imitate some relative or friend. The same day that he attended the Polish dance he received a letter from his friend telling him that he was alive and well, though he attempted to blow his brains out on account of a woman.



According to Freud,<sup>1</sup> all delusional formations and actions are the results of a compromise. There are two psychic streams opposing each other, and finally each yields a part of its demand and a mutual accommodation results. Our patient's suicidal attempt was simply symbolic, he really did not wish to terminate his life, though he wished to die. He simply wished to annihilate that part of himself which was most repugnant to him, and which was responsible for his malady.

Association 19 shows that patient aimed directly at the candle. On being asked to associate to candle he gave the following: "It recalls to me a picture of a big candle, a big white candle on a dark background. Candles always make me feel disagreeable. I used to avoid passing a certain store where there was a show case filled with candles. The burning candles with the dripping tallow which I used to see in churches and temples nauseated me. That recalls a girl called 'Baby S.' whom I used to know—that's all." When asked about this girl he showed numerous blockings and then continued: "She was anæmic, and they used to say that, that—she candled herself." Again blockings, but after considerable urging he stated that a candle with the dripping tallow recalls the penis after masturbation, a thing which always inspired him with disgust. The resistance was broken, and he frankly added, "That has been the bane of my life, I have not done it for a year because I was told that it would cause paresis."

The candle as we see is simply a symbolic representation of the penis. This is a familiar and widespread symbol, both in this country and abroad. The general popular belief that a virgin can relight with her breath a candle recently extinguished<sup>2</sup> probably owes its origin to the same symbolic expression (relight with her breath a candle—reawaken lost sexual powers).

Thus we see the reason for his aiming at the candle. In destroying the candle he kills that part of himself which is at the basis of all his trouble.

Why did he aim at Ibsen's picture? In order to understand this it is necessary to cite a fragment of a long dream which patient had while in the hospital. It was as follows: "I got a harp and played something melancholic, and the doctor stood there watching me, and then exclaimed, 'Behold a lion's head arising on a feeble body,' and then wishing to hide his feelings



he turned away." According to Freud,\* whenever one hears some speech in the dream it generally signifies that the dreamer has heard at some time the exact or similar words. The words which he puts in the doctor's mouth he actually heard from the doctor. On seeing the patient for the first time, while he was still in the somnolent state, I was struck by the size of his head, and I remarked to the supervisor, "He looks ill and is under-developed; his head seems too big for his body." In the dream this is changed to a lion's head. On analyzing the expression "lion's head," we obtained the following: Head of a lion—Max Lieberman, a German painter, made a picture of a sphinx with the head of Ibsen on it—it looks like a lion's head—thinks of his own head, which he believes "perhaps resembles Ibsen's head." On further analysis he identified himself directly with the great poet, and stated that he noticed the resemblance between himself and Ibsen, and that is why he bought the picture. We can now understand why he shot at the picture, for in doing this he again symbolically shot himself. We also know that for over a year he took great interest in Ibsen's works, especially in "When We Dead Awaken" and "Rosmersholm." This, too, as mentioned above, is a symbolic action. The title of the former play appealed to him because believing that he was suffering from an incurable disease, and that he would soon die, he naturally speculated on "When We Dead Awaken." Such symbolic actions are frequently observed in every day life.<sup>10</sup> Only within a few days the daily press reported the case of a New York embezzler who was discovered by detectives in a Philadelphia public library. The book which he was reading at the time of his arrest was entitled "Will I Ever Go Back?" Rosmersholm, too, appealed to him because he directly identified himself with Rosmer, "the happy nobleman who goes to death," but as the "will to live" always predominated in him, he at first dislikes the suicide of the lovers and even thinks of rewriting the last act.

What was the origin of the stereotype "Where are the white horses?" Those who have read Ibsen's drama will recall that whenever a death occurred in Rosmersholm the white horse was sure to make its appearance. As our patient identified himself with Rosmer, and lived through the tragic end of the "happy

nobleman," he looked for the white horse in his delirium, and hence the stereotyped question, Where are the white horses?

Thus we see that there is nothing mysterious or senseless in our patient's actions, all his actions and utterances have a reason and follow the same course as that of any normal individual. Indeed, those who make use of the psychanalytic method are well aware of the fact that whenever the patient's mind can be entered he ceases to be an enigma, and his "senseless actions and utterances" cease to appear senseless, on the contrary we are often struck with the purposeful, nay ingenious construction of the whole scheme. Moreover, we are always sure to miss—that "garbage can" of mental diseases—the "dementia," which is supposed to be the main characteristic of the disease. I have not seen a single analyzable case of dementia præcox that showed any dementia. Those cases whose minds we cannot penetrate merely because the patients refuse to co-operate with us, we are hardly justified in calling "demented." Every careful observer will recall that now and then a "dement" who has been noted for years with the familiar formula, "No change, dull, stupid, and demented," suddenly loses his dementia and acts in a perfectly rational manner. I can now recall three cases of dementia præcox that I observed in the Central Islip State Hospital which were "demented" two, three, and five years, respectively, and then fully recovered, which led me to believe in the truth of the statement that dementia præcox is often "neither a dementia nor a præcox." The works of the Zurich school, and of other investigators, have amply demonstrated these facts, and it is for these reasons that my former chief, Prof. Bleuler, to whom I am indebted for this case, repudiates this meaningless term, dementia præcox, and uses Schizophrenia.

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## THE INSANITY DEFENSE FOR CRIME.\*

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At a meeting of the Pennsylvania Association of Hospital Officers, it seemed to be an opportune occasion to call attention to some of the changes in recent years in the views and dicta held by the courts on insanity as a defense where crime was charged. On the occasion referred to, not only were physicians interested in a trial notable in many respects, but the community and the press engaged in discussions of the various and varying aspects of the crime that had been committed. It was not the first instance where a criminal act perpetrated by an obscure person, who might otherwise have made no contribution whatever to science or the elucidation of any legal problem, became an unwilling and unintentional center of a psychological storm. It seemed also an opportune occasion for an attempt to enrich and illumine (?) our already overloaded nomenclature by a term for which the lexicons of the dead languages have thus far not been equal to furnish a scientific explanation. Perhaps if a more comprehensive name were desired, "modern insanity" might be used to stand for all forms not otherwise now classified or that may be discovered hereafter. Yet, if it is thought a classical term is to be preferred and is essential, the puzzle may be solved by the use of the term *psycho-typhosis*, "although the good old Greeks did not have the thing."

In reference to the paper which has been referred to, a number of cases were cited showing the tendency of the judicial mind to modify the rigor of the opinions of the courts of an earlier day. Perhaps sufficient stress was not in those days laid on the instruction of the courts to jurors to give to the defendant the benefit of any and every doubt as to his mental state. If the courts of

\* Read at the sixty-fifth annual meeting of the American Medico-Psychological Society, Atlantic City, N. J., June 1-4, 1909.



later years have been correct in their views, and there is no intention to question their justice, it is clear that counsel have had an immense advantage in the defense by calling a number of experts who, by their testimony and theorizations, have succeeded in creating a doubt to the extent of causing a failure of the jury to agree because of the apparent disagreement of scientific experts who express diametrically opposite views. The main issue of guilt or partial responsibility is clouded or confused by the contradictory testimony of experts, the principal effort being directed apparently to create a doubt in the minds of the jury, and then the court is asked that the jury be instructed to give the prisoner the benefit of that doubt. Whether such a course is purposely followed is not known, but the effect is quite suggestive as a precedent to be followed with a reasonable prospect of a successful defense, the degree of guilt not receiving consideration.

It is a sad commentary upon what is called science, but the legal profession is resourceful and quick to perceive an advantage that may come from what has been called sometimes a battle of the experts. While the number of experts to be called may be unlimited by the court, according to the usual practice, what can be looked for but a state of mental confusion in the minds of the jurymen, even if they possess a conscientious intention of endeavoring to do exactly right? The evident purpose in a case where there is a narrow margin is to create a doubt which, for many reasons, may give a jury the opportunity they may desire to acquit or disagree or unconsciously acquiesce in what is sometimes called the unwritten law. It may be a part of correct legal ethics, which might be noted here, that medical witnesses may be properly called as experts to state all that can be possibly presented either in the interest of the commonwealth or the defendant, leaving it to the court and jury to thresh out a conclusion. While this view of expert testimony may or may not be correct, the rights of a defendant will usually be sustained and cannot be discussed here. It is, however, certainly true that the value of expert testimony has decidedly depreciated in the estimation of the laity, and we believe we may include the courts, because of theorizations that are not generally accepted, nor are they always founded upon well-established clinical experience. There



are difficulties surrounding the nature and value of expert testimony, the method of introducing the expert upon the witness stand so that he may appear there absolutely free from bias from any reasons, all of which are recognized, but a solution has not been reached. We are content, at this stage, to notice in passing some of the embarrassments that surround these trials that are recognized by every physician who has had a trying experience on the witness stand, nor shall we attempt to discuss his psychological state, which remains as an interesting subject for speculation after the ordeal has been passed, except to allude to it.

In a former paper referred to, five trials for homicides were cited in which insanity was alleged to exist at the time—even at the moment only—of the commission of the crime. All of the defendants were acquitted. In the opinions of the experts, whose judgments seemed to be accepted, they were cases of so-called mania transitoria, emotional insanity, epileptoid or unconscious states, irresistible or uncontrollable impulse or perhaps it might be as correct to call them impulses that were not controlled.

We now propose to consider another group consisting of cases in each one of which insanity was alleged by experts to exist at the time the crime was committed. This group embraces members who were the counterparts, in many respects, of the group heretofore alluded to, yet all were convicted notwithstanding the usual contradictory testimony of experts. How these different results or verdicts were reached is a fair question for consideration. Were they probably due to the fact that the array of contending experts was not large enough to create doubts that would otherwise have resulted in a mistrial? Were they not due rather to the fact that the court and jury drew a truer dividing line between insanity or disease and the unbridled operation of human passions which are implanted in all, but do not necessarily imply irresponsibility from disease because they are or ought to be controlled? These cases, and other similar cases that might be cited, present a fair question: Shall cases of so-called "modern insanity," which on examination are but instances of the operation of ungoverned passions, wholly escape punishment? Shall persons who have committed sudden acts of violence or made homicidal attempts without apparent motive, and with no history of insanity, be constructively declared insane because insane persons do

commit similar acts of violence? Are we as physicians expected to furnish a hypothesis of the existence of insanity, even in doubtful cases? Do they come within that department of knowledge which the alienist is supposed to possess?

A brief reference without detail will be made to a group consisting of sixteen cases or persons charged with homicide in courts of New York, Pennsylvania, and the District of Columbia.

No. 1. B. A convict, making his escape, turned upon an officer in pursuit, seized his pistol and killed him. Defense, epilepsy. A malingerer.

No. 2. T. Shot his wife in a public park by firing five shots into her body. Alleged cause, refusal of wife to live with husband, and jealousy. Alleged to have been an epileptic.

No. 3. I. B. Killed his paramour, because she refused to continue her illicit relations, by cutting her throat, nearly severing the head from the body. Defense, emotional insanity from jealousy.

No. 4. S. Killed a young woman, to whom he had been under engagement of marriage, and her brother in a public street by shooting. Defense, epilepsy and dementia.

No. 5. H. A degenerate boy killed a small boy companion by stabbing and torture after Indian methods and then placing the body in a stream of water, covered it with stones. Defense, moral imbecility.

No. 6. T. Shot and killed a banker in a contention about a money transaction. Defense, insanity.

No. 7. C. Killed the foreman of a factory because, on application, he was refused employment. Defense, insanity.

No. 8. S. Killed a young girl who refused to continue illicit relations with prisoner by cutting her throat, nearly severing the head from the body. Alleged epilepsy.

No. 9. H. Killed a farmer in a field of his farm by shooting with a rifle. Had some contention about a business transaction. Defense, inherited insanity.

No. 10. W. Killed his landlord by discharging a load of buckshot at short range into his body during a contention about an extension of a lease that the owner declined to make. Defense, emotional insanity, and insane at the moment he pulled the trigger.

No. 11. B. A convict killed a prison guard when angered by a reprimand for neglect of duty. Feigned insanity.

No. 12. W. Charged with killing three children and husband by administration of poison at intervals of time, on whose lives she had procured and collected life insurance money. Defense, insanity and irresponsibility at menstrual periods.

No. 13. S. Killed mother and assaulted sister with a hatchet, secured money the mother refused to part with, arrested in a house of prostitution. Feigned insanity.

No. 14. McN. Killed a young woman, after entering her bedroom unnoticed, by shooting with a pistol purchased a few moments before the killing. The young woman had declined the attention of the defendant. The defense was epilepsy.

No. 15. H. Case of murder by shooting. Alleged epilepsy.

No. 16. B. Killed a fellow workman in an outburst of frenzy by repeated blows with an axe, as he alleged, from momentary apprehension of personal danger.

All of these cases were presumably fairly tried. The defense was insanity, supported by such expert testimony as was available. The forms of insanity were alleged to be transitory mania, irresistible impulse, epilepsy, emotional insanity, or other forms. The plea was supported in each case by a variety of episodes in themselves of no significance and having no connection with each other, and such as might be found in the lifetime of many persons who have not committed any crime; such as, an unusual expression of the eye or face, irrelevant remarks and actions occurring only occasionally. Without exception, no evidence of any delusion was presented, nor was there a single occurrence of a convulsion shown in the cases of alleged epilepsy. There was, however, in the large majority of the cases, perhaps without exception, a history of progressive moral and mental degeneration due to alcoholic habits, vicious habits and excesses, low living and associations. Several of these persons were addicted to sexual excesses, or had disturbances of their marital relations. The crimes committed were marked also by excessive ferocity that usually characterizes the aroused passions in such cases. There was a sudden, emotional, psychical discharge, or eruption, beginning and ending with the criminal act, a common history of many crimes committed by habitual criminals.

The defense in these trials is commonly a collection of erratic acts which are interwoven into a hypothetical question, but in themselves of no significance to the medical mind, yet they are intended to create a doubt which shall be put to the credit of the defendant. Insane persons do commit criminal acts, but it does not follow nor should it be assumed that every killing is the act of a lunatic. Sane persons are constantly doing what the insane do. A single act does not necessarily imply insanity. As physicians, in our daily clinical observations, we endeavor to ascertain what is or has been the normal condition of our patient, and seek to

find what has been the change or departure from the normal state, and when it commenced. It is the rule that insanity is not a sudden instantaneous change. If it has developed suddenly or instantaneously, as is sometimes stated, there may have been omissions to note the import of its threatened approach, or the whole history has purposely been withheld. The only rule upon which we can act or come to a conclusion in these cases is that there is always a developmental stage of insanity as in our clinical experience in the observation of ordinary diseases. This rule we observe in the discrimination between insanity and shamming. The condition of insanity may also consist of an exaggeration of the ordinary normal condition of some persons, and even then the individual may have crossed the shadowy line between sanity and insanity.

Habit is defined as "a tendency toward an action or condition which by repetition has become spontaneous." Habit may even become an abnormal condition. We constantly refer to vices that become established by frequent repetition as vicious habits, vicious indulgences, always resulting in gradually weakening the will-power, or power of self-control, by frequent repetition. The inculcation of a moral code tends, on the other hand, to a corresponding increase of strength of the will-power and self-control, in the direction of the formation of decent habits of living and acting which are the foundation of social order and absolute justice. The formation of habits of living, of thought and indulgence of passions in contravention of the moral and written code enacted for the welfare of community, are offenses which will surely be followed by some expiation or atonement. If decent habits of living and acting in the varied relations of life can be formed and strengthened by practice, so the indulgences of an opposite course may intensify evil passions until they are beyond control and obliterated. If an individual shall knowingly elect to live the latter life, is he to be considered the victim of disease and wholly irresponsible for his misdeeds? Are such persons to be pronounced emotionally insane if the criminal act is in itself the only evidence of its existence that can be presented?

In the classification of the faculties of the human mind, the emotions or passions, many of which are instinctive, are commonly referred to as including love, anger and frenzy, envy



and jealousy, hatred and revenge. They have been called the instinctive passions in distinction from those that are acquired. With one exception, perhaps every one in the list of the sixteen homicides we have cited can be classed as a crime committed during a paroxysm of some one of the passions referred to. As a class, these criminals were pitiable subjects to look at and contemplate. They were victims of the indulgence in evil passions, a tendency to which was possibly transmitted by a vicious inheritance or was acquired by environment and intensified by habit and frequent, unrestrained indulgence. The crimes were of an atrocious character, marked by excessive ferocity. The victims were weak and defenseless, incapable of self-defense, against cowardly attacks. The defendants were degenerates or degenerating, or, in other words, had passed or were passing from a higher plane to a lower plane of living and acting. That all persons so inclined may pass into an abnormal or pathogenic condition is also to be conceded. In these cases, the proper sphere or limitation of the alienist would seem to be to differentiate between what is disease and what is none other than a paroxysm or exhibition of one of the passions which have been allowed unrestricted play. While the alienist may properly be asked to define insanity, and what experience and authority may teach, he is not best qualified to determine, authoritatively or as an expert, the operation and limitations of the human passions. Indeed, the alienist is not as well qualified as the judges who sit to interpret human actions as well as laws framed in the interests of social order and for the protection of society. It tends to lower the estimate of value of expert testimony that, as a rule, two, four or six experts can be found to testify to opposite conditions. Possibly this is a state of things in which the methods of conducting trials tend most to produce the unsatisfactory conditions that now exist for which the medical profession is not wholly responsible, but the responsibility should be placed on the judges. If these conclusions are to be considered as the confession of one who has had his share of experience, he should be pardoned if he enters a protest against lowering the standards of his profession. It is time that we should seek to elevate our standards, or so-called science, above that of a marketable commodity which has a price. We should stand by our professional standards and not be a party or parties



to widen the meshes of laws through which men wholly or partially guilty may pass unscathed.

The human passions are implanted in man for a wise purpose. They are instinctive and are intended for the protection and preservation of the species. Their proper operation may tend to the development of absolute justice between man and man and have a proper function. Everyone must also be responsible for their proper use and guard against their abuse. In a perfect state of things, there could be no abuse of the passions—no excessive demonstrations. If crimes are the results of abuse of human passions or are intensified by a vitiated inheritance, as we all concede is possible, so it must be also stated that human law has its imperfections and has not been framed or administered so as to deal with all the varied and complex happenings incident to society with absolute justice. We are willing to admit that psychological conditions do exist or may arise suddenly from exaggerated or intensified passions or emotions which explain some crimes, but are not to be considered as a condition of disease. Are there not psychical conditions that do account for crime, but do not amount to irresponsible states in the same sense that insanity or disease renders the individual wholly unconscious or irresponsible, as from a delirium or a delusion? Are there not psychical states that may modify responsibility in a *degree*, but not *wholly* excuse a crime or violation of laws that are established for the protection and welfare of society? These cases deserve a careful scrutiny, not that they are states of disease, but of subconscious cerebration that may and ought to modify responsibility. In sudden emergencies and critical moments, in a time of sudden and extreme peril, as in battle, persons have been known to do things of which they state subsequently they have no recollection—actions which resulted perhaps in the preservation of life, yet concerning which no details could be recalled. In such cases, it can be stated there is a suspension of action of certain mental processes. While we have thus done no more than attempt to describe the situation, yet can we say that insanity existed if that is the whole history of a case? Yet such has been asserted under a hypothesis that epilepsy or epileptoid conditions perhaps existed, although not a single convulsion had ever been observed.

We are willing also to concede what all experience confirms, that

a habit of indulgence in uncontrolled passions, like other habits of self-indulgence, may induce a pathological condition or a change in the character. It is also a common experience to find that passionate outbreaks are often associated with the alcohol habit, some sexual conditions or disturbance of the marital relations, or they have the marks of some inherited predisposition. They may show even some physical marks of degeneracy, as many persons can show, which have come down from former generations. It is a very common experience, when a crime has been committed by one of the class that has had a manner of living and thinking in a way calculated to cultivate and intensify vicious passions, to hear it stated that the deed was done in a state of unconsciousness and no recollection of it remained. What shall be the relation of the alienist to the case if called upon to examine such a criminal? He may properly seek to determine in his own mind whether the person was insane, as he would do according to the methods which prevail in his hospital, and as all authorities approve. He may seek to differentiate between mental disease and an act performed in an ebullition of anger, jealousy, envy, or any unconquered passion which, for the time, had the mastery. He may approach the question from another position and ask himself if, with a history of the case presented to him, he could and would have given a certificate of insanity, before the commission of the crime, as a warrant for a commitment and detention in a hospital. Some of us may recall instances where a person acquitted of crime because of insanity has remained in a hospital only long enough to have papers and certificates of recovery from insanity prepared. Have such proceedings contributed to the fallibility or infallibility of expert testimony? Why may not the expert make a distinction between insanity as a disease and criminal acts done under the impulse of anger or some one of the passions, leaving to the court if it should be admissible to measure the degree of responsibility? If the courts were allowed a wider latitude in disposing of those cases and determining the degree of responsibility, there would be fewer mistrials to record. Here is a field that the penologist may properly enter for study with the hope of making provision for measuring, so far as human ken can go, the various degrees of responsibility for crime. The ebullition of human passions, it should be remembered, does not constitute insanity or mental

disease, and the alienist ought not to suppose he is indispensable in their investigation beyond determining whether mental disease exists. There should be other evidences of disease beyond the criminal act. Neither does environment or heredity necessarily alone presuppose a state of irresponsibility. Justice and social order, as society is constituted, have claims for their preservation even equal in importance to the solution of merely scientific problems or the issue of a battle of experts.

On the occasion of the commission of an atrocious crime, when no other line of defense seems available, there remains what seems the last resource, the plea of insanity. Our profession seems to be a sort of residuary legatee of such contentions, and is often relied upon to create the reasonable doubts that will free the defendant from all responsibility. This outcome should not continue to be the opprobrium of our specialty. It has occurred partly from an erroneous confusing of the manifestations and explosions of passions with acts performed in a state of insanity; the usual methods of conducting cases by the judges; and the manner of selecting experts. If there could be some amendment and improvement upon present methods of introducing expert testimony, and if it were practicable to enlarge the degrees of criminality and responsibility, society would have additional security. Much of the dissatisfaction, and we might add the scandal, that grows out of the present system might also be avoided. The certainty of conviction for crime is one of the great safeguards against its commission. We all know that large numbers of cranks and others who allow their passions unrestricted sway are held in check only by the fear of punishment or some restriction of their personal comfort or liberty. It must be remembered there still remains an appeal for merciful consideration even after conviction.

The prominent points which have been presented in this paper perhaps in a desultory way have been suggested by participation as a witness, or a spectator in court, or by perusal of public reports of crimes and the trials that followed. In reflecting upon them it appears that the important or dominating thoughts may be condensed in a résumé as follows:

I. From common observation and experience, we recognize the fact that indulgence in passions—which, by the way, are

common to us all—may result in a loss of self-control and gradual degeneration which is acquired and not due necessarily to disease, inheritance or environment. If this is true of individuals, it is true equally that whole communities and even nations may degenerate to a low state, or be destroyed from a lax administration of justice. Human and divine laws are intended to secure the preservation of social order and the betterment of a community. On their execution depends the security of human life. If self-preservation is a maxim or principle which may be a sufficient defense of the individual, in a larger sense, self-preservation may be a warrant for a community to adopt extraordinary measures for its protection as well as for the prevention of crime.

II. If persons actually insane have been convicted of capital crimes, which we believe has been of rare occurrence, it has more frequently happened that a crime committed in an exacerbation of some one of the human passions has been condoned mainly through a doubt of the sanity of the criminal created by the evidence of medical witnesses who would not have felt warranted in signing a certificate of insanity for detention in a hospital, as no single symptom had been presented that antedated the criminal act.

III. In the opinion of some, the trial judges have freely opened the way to the introduction of extraneous issues; have permitted the introduction of highly technical questions, the use of scientific terms that do not imply necessarily advances in psychiatric knowledge, nor are universally accepted. It is admitted the names are new discoveries, unfamiliar, beyond the comprehension of the court and jury, in themselves having no significance, yet they have a mysterious influence, and work the court into a state of doubt or scientific indigestion. It is believed that insufficient attempts are made to differentiate the operation of the uncontrolled human passions from what we ordinarily understand to be the disease or condition we call insanity. Some amendment or change in the present practice of introducing the medical witness upon the stand without bias or the suspicion of it would be welcomed with great satisfaction, but it might be regarded as a gratuitous offer for a medical man to make suggestions about legal procedures that belong properly to the courts. Neither is there any limit to the number of experts that may be summoned in the present practice,



but, on the other hand, there is a tendency to an increase. In a trial in a neighboring city, sixteen experts were summoned, eight for the commonwealth and eight for the defense. It is submitted to you whether this is a reflection on the certainties, or does it show the uncertainties of our science?

IV. There remains yet another problem that the penologist must study, viz., whether it is possible that any modification of the penalties for crime can be made that would more justly recognize varying degrees of criminality?

V. Finally, the question and thought will recur, must the helplessness of man to approximate absolute justice in dealing with the class of cases we have been considering be confessed, and their disposition passed beyond all earthly courts to a Higher Tribunal hereafter?



## COURT TESTIMONY OF ALIENISTS.\*

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Specialists in mental and nervous diseases were not called into courts of law as experts until long after it had been the custom to command the services of persons supposed to be skilled along other scientific or special lines of work.

A hasty review of the literature having reference to expert testimony shows that the real development of a demand for expert medical evidence began with the calling of surgeons as advisers in court procedures, where complicated surgical problems were presented. Surgical methods and surgical results so greatly varied that justices of the courts of law, it seems, naturally felt incompetent to pass intelligently upon matters so foreign to their training and so far removed from the field of their general operations.

In English judicial tribunals, the expert made his appearance first as an adviser of the court. As early as 1353 the sheriff was ordered to summon skillful surgeons from London in an appeal of mayhem, to inform the court whether the wound in question was really mayhem or not.

In the seventeenth century it became necessary to call experts as helpers of the jury. In 1665 at the noted trial of the Suffolk witches, Sir Thomas Browne, a prominent physician and natural philosopher, was called upon to examine the accused, after which he gave expert testimony in court. This seems to have been a starting-point in English courts in the calling of medical experts, for the purpose of having them give their opinions in order that the courts and juries might be enlightened upon scientific medical subjects.

It is the purpose of this paper to discuss in a somewhat general manner some of the relations of medicine to law, but to particu-

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larly deal with medico-legal matters which involve the question of mental unsoundness. We may differ as to the proper order of the discussion of this subject and entertain different views as to the force of the contentions herein set forth. That there should be a difference of opinion in the discussion of this subject is natural, since differences of opinion are so common to scientific subjects in general.

It is generally admitted in the columns of the lay and medical press that medical experts occasionally disagree. It is also quite well known that the average American citizen believes himself to be a standard authority on medical expert testimony. Men who know nothing of the responsibilities and duties of a presiding justice freely criticise his rulings. Men who know little of medicine pay their critical respects to the experts. The spirit of criticism goes further: Members of the legal profession with brotherly sarcasm discuss openly the gross mismanagement of court cases and the palpable blunders of the counsel; but this is not where the storm center of criticism is to be found. The testimony of medical experts furnishes the one theme which all men seem to feel fully qualified to analyze, simplify, rearrange, boil down or build up to meet individual fancy or personal prejudice.

The advisability, wisdom, necessity and propriety of employing expert testimony, as well as the weight that should be given it, has for more than a century been subjected to severe criticism and more or less violent discussion. The fact that it has for so long a period been given the critical attention of the ablest exponents of the bar, and the most accomplished members of the medical profession, and that it still is found to be an indispensable and highly important part of a large proportion of court procedures, is at least presumptive evidence that its importance is recognized in the courts of the civilized world, and that it will always be a necessary feature in the promotion of the cause of justice.

From a psychological standpoint it may be noted that it is a remarkable peculiarity of human nature that men who seem totally unqualified to do a thing properly are prone to arrogate to themselves an unlimited qualification to enlighten others as to the only correct mode of action. This manner of conduct has always obtained, and so long as we are human it will continue in a greater or lesser degree in spite of the babblings of superficial critics and

the malicious and caustic fault-findings of persons who feel they have found palpable errors but possess no ability to offer a practical remedy.

This particular phase of our subject calls for some consideration since highly reputable members of the professions of law and medicine have published their disapproval of the present mode or process of selecting medical experts, the manner of conducting their direct and cross examinations, the latitude accorded to them in the giving of their testimony, the value placed upon hypothetical evidence, the wide scope to the formation and use of hypothetical questions, the fact that experts on the opposite sides of a given cause so frequently disagree as to diagnosis, classification, testamentary capacity, criminal responsibility and contractual capacity, the fees paid to experts for their court work and services and the matter of the expert witness becoming either argumentative or combative while testifying.

These contentions are worthy of serious thought and discussion, and I feel that before this body of professional and scientific men, these important phases of the subject should be taken up and discussed in a deliberate and dispassionate way.

In taking up these propositions in regular sequence, it may be well to bear in mind that some lawyers have contended that the remedy rests with the medical profession; other lawyers assert that the proper solution must be reached by the co-operation of the two professions; some medical men contend that the statutes which regulate court procedure are at fault; others declare that the desire of medical witnesses to become advocates is responsible for a large part of the adverse criticism. Without taking issue at this time with any of these critics upon these points and assuming that they are all experts upon the question which they have attempted to analyze, it is clear to us who desire to be impartial and fair, that among this array of expert critics there is evidenced a considerable diversity of opinion about a proposition in which they contend there should be absolute unanimity on the part of medical experts, and since these savants fail to agree among themselves, and since no two suggest the same remedy, how are we to assume that they are capable of furnishing a practical legal order of procedure which will place expert testimony upon a more satisfactory basis?

Dr. F. W. Langdon, of Cincinnati, Ohio, says in the *Lancet Clinic* of August 15, 1908: "While it is plain that it is not our province as medical men to instruct the representatives of the law as to methods of court procedure, we may properly insist that any blame or failure attaching to faulty methods of procedure shall not be shifted in the slightest degree upon the medical profession or such of its members who may chance to serve as expert witnesses."

It is not difficult to discover unsatisfactory features in established systems. When we attempt to correct defect which we in our wisdom feel we have found, then the real trouble begins.

Difference of opinion exhibited by physicians in court often depends upon the fact that the witnesses on different sides of a given cause have not been afforded equal opportunities for the examination of the person being tried or are required to form their judgments upon a radically different set of facts, or a set of facts so differently grouped and presented as to make agreement next to impossible.

Dr. Langdon, in the article referred to, says: "Another proposed solution of the difficulty is to abolish the hypothetical question and the expert witnesses altogether in cases concerning insanity and substitute a commission appointed by the court. This procedure is now available whenever the judge desires to exercise it. I have known it to be applied in Ohio, and have served on such a commission. The press has also informed us that it was carried out in New York State in a recent case of wide notoriety. The commission there, we are told, consisted of two lawyers and one physician appointed by the judge. The trial was stopped while the commission examined the defendant as to his sanity. Since the trial was resumed after their report was rendered, it is a fair presumption that the commission, or a majority of it, considered the defendant sane. I have heard it intimated, however, that the two lawyers in this case decided the defendant sane; that the doctor found him insane. As the report was not made public, so far as I know, this may be a surmise only. We all know by the verdict what the jury thought, and further, that the jury's verdict was confirmed by two qualified physicians after a careful study of the prisoner, extending over a month's time, during which they were in daily association with him. These physicians testified that



he was insane. Now, the question naturally arises: Who had the better opportunity to judge, the commission reporting after a few hours' investigation, or the two physicians, after a month of daily observation and study?"

The commission referred to by Dr. Langdon was not to determine the question of vital importance to the accused, that of his mental condition at the time the crime was committed, but for the purpose of determining whether he was sane or insane at the time of the trial, more than eight months subsequent to the date upon which the act for which he was being tried was committed. In other words, it was to determine whether at the time of the trial he was in such a state of mind as to enable him to understand the nature and character of such trial and to advise with his counsel, and therefore did not necessarily have a direct bearing upon the mental condition of the accused at the time he committed the act for which he was then on trial.

The eminent physicians who have suggested remedies for the defects arising out of the present manner of selecting medical experts in important trials, seem generally to have overlooked or viewed with light regard the constitutional rights of persons being tried for their lives, and they have seemed to think it a simple matter to put aside by legislative action an established order of court procedure which has existed for centuries, and which is the natural outgrowth of the Magna Charta of our democratic government.

Some writers upon medico-legal subjects have gone so far as to suggest that a "Board of Experts" should be elected by the people; others that they should be chosen by the courts or appointed by the governors of the various States, and that these elections, selections or appointments should be for life. Is it not evident that this order of selection of experts would, because of a large number of reasons, prove highly objectionable?

(1) If elected by the people their nomination and election would in numerous instances unavoidably be tainted by politics. Politics, with all its virtues, should not play so important a part in the "Temple of Justice" where human beings are under trial for their lives or property rights are being determined.

(2) The selection of expert witnesses, if made by the court, could not be made with full appreciation of the unrevealed facts



involved in the defendant's case, nor could the defendant's counsel consistently disclose such facts to expert witnesses in whose selection he had no part. The competence and equipment of such witnesses would not be assured by the fact that the court made the selection.

Dr. F. X. Dercum of Philadelphia, Pa., in the *New York Medical Journal* of July 25, 1908, says: "To me it seems incontrovertible that the appointment of an official expert by the courts would be a very serious menace to justice. Who is to select the experts? It takes an expert to decide who are experts. Shall the judge, who is a layman in medical matters, make the decision, or shall it be a civil service appointment; if so, who are the experts to examine the experts? Again, it is a matter of common experience that public appointments soon become the play and spoil of politicians, and the danger would be that sooner or later the expert would be a person of the second rank or no rank at all."

There is no substantial basis for assuming that governors are qualified to choose or select boards of expert witnesses more satisfactorily than they are now selected. Then where is the wisdom of such proposed statutes? The fact that experts shall be selected by the governor would not guarantee their equipment nor would it give assurance that they would not at any time be of such independence of thought or possess such individuality of mental make-up as would enable them to disagree.

The appointment of boards of experts for life, which has been advocated, does not promise that agreement in testimony which theorists claim is the ideal result to obtain. That the Supreme Court of the United States is a most dignified body must be admitted by everyone, but even here we find a wide diversity of opinion upon given sets of facts submitted to them for judicial action, and yet the tenure of office of justices of the Supreme Court of the United States is for life. In the famous "Dred Scott" case, the Supreme Court was divided by a difference of one vote and the opinion was given by Chief Justice Taney, who represented the majority and who, after disposing of one point of law, followed it with his famous "obiter dictum," and in it gave utterance to sentiments which operated to hasten the great crisis and operated strongly to involve this nation in a civil war. There still exists a marked difference of opinion among the intelligent

people of this country as to the justice and correctness of the opinion and the propriety of the utterance of the obiter dictum of the chief justice. The opinion of the minority has yet many firm supporters; but why should there have been a difference of opinion? The Supreme Court was composed of able men of judicial temperament trained in weighing facts. The same facts were submitted in writing to all the members, and in spite of the fact that they held a life tenure in office, they disagreed. This decision and numerous others where the court was divided almost equally have been from time to time handed down, but we still retain confidence in this great arm of the government and attribute their differences of opinion to independence of thought and the exhibition of individuality and personality such as characterize the acts of great men.

The Supreme Court was asked to determine the question of the constitutionality of the "Income Tax." It is a matter of history that it was decided by a majority of one. There must have been quite a difference of opinion on the part of these learned gentlemen, these trained legal minds, and yet for this difference of opinion we do not hear them being abused for their partisanship. We hear no one say, in view of the fact that their tenure of office is for life and that they hold a non-partisan position and are not expected under the constitution to play the rôle of advocates, they are dishonest and the Supreme Court should be abolished.

We are rather inclined to the opinion that in this instance there was again an exhibition of personality, an independence of thought, and while the same facts were presented to all of them, their processes of reasoning in the application of the principles of law differed. We regard them as honest men and great men. We look upon the Supreme Court of the United States as one of the magnificent institutions of this government, but its members, like the individual citizens of other avocations and in other professions, exhibit their strength of character in their intellectual individuality in arriving at conclusions as to the application of the principles of law.

When all men shall agree on scientific questions, when all men shall reason alike, the monotony of scientific work will mean intellectual stagnation. There could be no competition and nothing for which to strive. All the problems of human life and human

action would be placed upon a stationary and fixed basis and progress would be impossible. Personalities and individualities such as Cæsar, Frederick the Great, Napoleon, Galen, Hippocrates, Physick, Watson, Osler, Kraepelin, Washington, and Lincoln, and numerous others whose work adorns the pages of history, would occupy no distinctive place in the records of professional and scientific progress. These are men who thought independently and thus became giants in the spheres of their action. They differed from other men. Men of a lesser degree of that quality of mind recognized in the equipment of geniuses must proportionately exhibit the mental prerogatives of discrimination, individual judgment and the application of scientific principles in the solution of the problems presented to them.

The criticisms upon the latitude given to expert witnesses have been numerous, but a satisfactory solution has not been suggested. Pointing out what seems to be defective or faulty in structure or cumbersome in action is not difficult, even if there be actual wrong. A logical, legal, reasonable and just remedy or correction is what is needed; to provide this requires more than a simple spirit of criticism.

Why are experts called to give testimony? It is generally conceded that the object of introducing expert testimony into court proceedings is to make clear scientific points relating to the question at issue and thus promote the best principles for the government of society in the just protection of life and property. The correct application of justice and equity to the principles of medicine is a vastly different process from that of making the principles of medicine meet the requirements of law; the one would mean the promotion of right by the orderly administration of law in accordance with the principles of a progressive science, while the other is too often the disarranging and misusing of legitimate and reliable scientific findings in order that they may be made to meet the demands of established legal precedents or harmonize with court rulings, many of which are relics of antiquity.

The art or science of medicine is progressive. It does not today depend on the dogmas and theories of the middle ages; it does not even hang to the theories of the last decade, but accepts that which is proven to be the soundest and best after it has been subjected to scientific scrutiny and careful analysis. In medicine no

great authority of the past is allowed to retard the investigations and progress of to-day or to interfere with the steady strides which are being made through scientific medical research in the interests of humanity.

The attacks made upon the worth of hypothetical evidence, the use of unlimited and extensive hypothetical questions, cannot be fairly charged up against the medical profession, and it is safe to say that much that has been said derogatory to hypothetical evidence and the value of hypothetical questions as they are used to-day has been said without due consideration or a proper understanding of the true reason for the introduction of such an order of giving testimony and the relative benefits arising out of it.

It is quite clear that the principle reason for introducing hypothetical questions in the trial of a cause before a court and jury is for the purpose of setting forth in a more or less abstract way scientific facts and conditions, identical with or similar to those which have been proven or are to be proven in the given cause at issue; and the extensive hypothetical question has been accepted for the reason that it is an expeditious manner of setting forth all the admissible parts of the testimony in a given cause so that the witness may form an opinion, not upon a part of the case, but upon a fair and reasonable presentation of the whole case; but it is to be much regretted that courts often allow hypothetical questions to be propounded which do not fairly present the whole case and even permit them when many of the cardinal or essential facts which have been proven are omitted.

While there is much to be said in behalf of the hypothetical question, there are undoubtedly serious objections to the manner in which it now is so frequently used. Personally I find hypothetical questions in many particulars objectionable in that they group together a number of hypotheses and force the witness to accept them all as proven facts and to reject all other manner of testimony not included in such hypothetical questions. This forces the witness to the formation of his opinion solely upon the assumed facts set forth in the question, and limits him in their use to such application and weight as are given them by the constructor of the question, even when it is clearly an unfair presentation of the evidence.

Frequently one hypothesis practically nullifies all the others



incorporated into the question. The hypothesis which has this power of nullifying may be based upon the testimony of a very ignorant witness, and the testimony may have been given while such witness was in a state of confusion due to the vigorous cross-examination he has been subjected to. The expert is not permitted to take this into consideration. He must assume that such facts are proven; how they are proven and the conditions under which they are proven is not to be allowed to play a part in the formation of his opinion. The objectionable features of such a restriction are from a scientific standpoint quite evident, but the rules or laws of evidence must obtain, though the heavens fall.

I am firmly of the belief that long hypothetical questions consisting of several thousands of words frequently do not tend to best advance the cause of justice. From my experience I am led to believe that, when such questions are so long and complex, instead of making a clear and concise presentation of expert opinion to the court and jury, they tend to bewilder and confuse rather than to elucidate and assist the jury to a better grasp of the situation.

It must be borne in mind that the slightest change in a hypothetical question will sometimes force the conscientious witness to a totally different conclusion and answer. In a somewhat celebrated murder trial in which I appeared as one of the expert witnesses, a hypothetical question was so framed as to lead a casual observer to believe that it embodied all the essential facts which had been presented upon the witness stand, but in one part of it it had this phrase: "and assume that at this time he was suffering from a disorder of the mind." Now, whatever might have constituted the other parts of this lengthy question, since a "disorder of the mind" is used to indicate mental unsoundness, mental derangement and insanity, it is clear that the witness, by the insertion of this one assumption, was left no choice as to a conclusion and was denied the right of discrimination and the opportunity of weighing the other parts of the question, and that all the remainder of the question was made practically immaterial and amounted to nothing more than a garbling of words to impress upon the jury the fairness of the counsel in the presentation of the case. In my opinion no court should allow an assumption or hypothesis which will nullify all other hypotheses and leave the



witness no discrimination and no opportunity to weigh other important hypotheses incorporated in the question.

The changing of one word or sentence in a hypothetical question will frequently disorganize the entire complex proposition. This is fully appreciated by well-trained and astute lawyers, but rarely does the general public or members of the medical profession inexperienced in court work give this item the consideration it deserves.

Macaulay, in his essay on Bacon, says of cross-examination methods: "We will not at present inquire whether the doctrine which is held on this subject by English lawyers, be or be not agreeable to reason and morality—whether it be right that a man should with a wig on his head and a band around his neck, do for a guinea what, without those appendages, he would think wicked and infamous to do for an empire—whether it be right, not merely believing but knowing a statement to be true, he should do all that can be done by sophistry, by rhetoric, by solemn asservation, by indignant exclamation, by gesture, by play of features, by terrifying one honest witness, by perplexing another—to cause a jury to think that statement false."

Much has been said about the conflicting nature of expert testimony and the fact that experts on opposite sides of a given cause so frequently disagree as to diagnosis and classification, criminal responsibility, testamentary capacity, etc., has furnished a theme which has called forth in a few instances some able criticism and in many instances explosive outbursts which seem to have had origin in a lack of comprehension of the salient facts involved in this important proposition.

It is a regrettable fact that much of the adverse criticism on the part of physicians against expert testimony is the direct outcome of professional jealousy and a lack of expert knowledge of the very subject on which they arrogate to themselves the right to pass final judgment.

Dr. William A. White, of Washington, D. C., in the *New York Medical Journal* of July 25, 1908, in his article, "Expert Testimony and the Alienist," says: "Professional jealousy is not unknown even among the doctors, and the specialist who is not 'called' to give his opinion, and to receive large fees therefor, can well afford to decry the lack of morale in his more fortunate

brother. In fact, in so doing he is but obeying a physiological law, and, in the language of modern psychiatry, but developing a 'defense reaction,' so that he may spare himself the discomfort that comes from emotions that find no means of outlet. Less technically, he 'vents his spleen,' thus relieving the tension, so that he may proceed with the day's work in a spirit of calm. That a lack of adequate comprehension of the problems of expert testimony and criminal law is at the bottom of much of the controversy is shown by the nature of many of the remedies for the presumed evils of the system that are proposed by its critics. These remedies frequently show an entire lack of understanding of the fundamental principles of American criminal law, and are proposed with a nonchalance that shows plainly that the writers have no idea that to carry them out would involve a radical change in these principles."

Often popular opinion demands the life of a man when such a penalty is not in accordance with medical science or justice. Testimony in behalf of such a person is always unpopular and elicits much severe adverse criticism. Even our courts have been known to bow to public opinion when their judgment has been to the contrary.

It is granted that experts other than medical experts disagree upon propositions in which there has been equal and full presentation made of all the known features, phases and conditions of the issue. It must also be admitted that medical experts in the various branches of medicine disagree whether they be in court, in medical societies, medico-legal societies, or at the bedside of the sick.

Two or more medical experts may be called to see the same patient and examine such patient in the presence of each other, leave and go to a consultation room and disagree as to diagnosis, prognosis or treatment, or all three. This is too well known to call for an elaborate discussion. If the same experts were called to the witness stand, if they were honest in their opinions and convictions at the bedside, could they be more honest if they were on the witness stand? If they had conscientiously disagreed at the bedside would their coming into the court room be a reason for a harmonious agreement?

Consider the action and conflicting opinions of noted expert

engineers in reference to the Panama Canal, or the experts daily called in the valuation of property; is it not known that they differ in their judgment, their valuations and their appraisements? Do lawyers agree on the application of the principles of law? If so, would there be any choice between lawyers when one was seeking advice out of court?

Again we will go back to the expert in medicine, and when I say expert in medicine I mean in any and all of the various branches of medicine and surgery. They visit a wealthy patient and hold a consultation; the fact that they differ in their opinion is not positive evidence that one is right and the other is wrong. They both may be wrong, but whether both be right or wrong in their opinions, either as to diagnosis, prognosis or treatment, it is not a recognized article in the code of ethics that either of them because of a difference of opinion shall deem it proper to decline to receive a fee in proportion to the professional services rendered and the financial ability of the patient.

A man who sees a case out of court and gives his honest opinion about it, although he may be in error, if he does not discover his error, will give the same opinion under oath, for expert testimony is necessarily largely opinion evidence, and more frequently based entirely upon assumptions grouped and presented by the examining counsel after his own manner and fancy.

The manner in which ordinary witnesses as well as experienced witnesses are badgered in court by pugnacious and aggressive lawyers, occasionally makes it necessary that a witness must either be combative or submissive. If he be submissive the public and the jury form a conclusion that he is poorly equipped, not competent and not qualified to testify in the capacity of an expert. Many members of his profession look upon him in scorn and he is humiliated in the eyes of the public. If, on the other hand, the expert witness stands firmly by his convictions, insists that his statements shall not be disturbed and misrepresented, and when there is an attempt made to force him into a false position, he frankly, openly and energetically combats it, there will always be found persons who will criticise him as being disposed to deliver a lecture, inclined to be an advocate or to show bias.

I contend that it is the duty of the expert witness to use every possible means at his command to properly understand the work

which is before him in any given cause with which he is associated, to set forth in plain English his opinions and to stand firmly upon his convictions, fearless of criticism and fearless of the often unfair, aggressive or pugnacious attacks of the examining counsel.

It is unfortunate that the qualifications of witnesses who go upon the stand for the purpose of giving expert testimony cannot be uniformly determined under a well-defined standard. This is now left to the court's discretion and too frequently incompetent persons and inexperienced and poorly equipped physicians are permitted to qualify as experts. Book experts or quotation experts should obviously have no place in the courts of law.

#### DISCUSSION.

DR. H. A. TOMLINSON.—I was one of a committee of five appointed at the meeting of this Association in St. Louis in 1904 to consider the question of the responsibility of the insane for criminal acts; and while each member of the committee presented his opinion in writing, there was such a divergence in the conclusions expressed, that no report was made at the next meeting by the Chairman, Dr. A. E. McDonald. I should like, therefore, as a contribution to this discussion, in connection with Dr. Chapin's paper, to read what I wrote at that time, as having a distinct bearing on this question.

"Are the insane responsible for criminal acts?" In the present state of medical opinion concerning what is constituted in insanity, a definite or a direct answer to this question is impossible.

It will be necessary first to have a consensus of opinion as to what is constituted in insanity, and what is connoted by the term responsibility.

If the terms insanity and responsibility are used etymologically, insanity in itself is not a reason for not punishing the individual guilty of a criminal act; especially if it be an act of violence to the person, either with homicidal intent, or to satisfy sexual desire; because the impulse toward such acts is an inherent tendency in human nature! Criminal acts toward property may be in themselves the evidence of insanity, especially when they are wanton and apparently purposeless; and yet such acts are instinctive and habitual with the child and the defective. The presumption is, therefore, that criminal acts done by one to whom such conduct should be naturally abhorrent, indicate that he is deficient in self-control, whether the act results from impulse or follows deliberation. The lack of self-control implies mental incapacity; that is, a reversion to the primitive tendencies of the human animal.

The question is then, what degree of incapacity or loss of power to control the conduct that is manifested in criminal acts makes the individual irresponsible? That is, makes him unable to respond to those conditions



in his environment that affect the welfare of others, so that no harm shall come to them directly by personal injury, or indirectly by loss of property. If a man is insane, presumably he is not able to adapt those activities that are manifested in conduct to his environment; yet, men have been insane all of their lives without doing criminal acts! Again, men may be temporarily unable to appreciate their relations to those about them, and to control the activities that are manifested in conduct, so as not to interfere with the welfare of others. In other words, their response to the conditions in the environment is untoward to their neighbor. The nature of this disability is not influenced by its cause, as in alcoholism and narcotism; so that the fact that the man might have avoided the cause of his condition in no way modifies that condition; because the inhibition of control only released an inherent tendency.

Therefore, responsibility, that is the ability to respond, must be determined with relation to the individual, and cannot be the subject of a general rule; because no two individuals are alike, nor will they respond in the same way to the conditions in the environment. The determining factor as to the presence or absence of the ability to respond, is the capacity of the individual to control the activities that are manifested in conduct, so as to not interfere formally or grossly with the welfare of others. The only guide we have to determine this inability is the degree of defect present in the mental make-up of the individual, or the extent of the reduction in mental capacity associated with his insanity.

With regard to the expert witness, I believe there would be no trouble if we were content to be medical men, and did not try to be lawyers also. That is, if we refused to act as coach for counsel, and appeared as witnesses only—testifying from our special knowledge without regard to the effect of our testimony on either side of the case. But then, if we did take this stand, we would not be called as witnesses except by the State, and not often then.

DR. H. R. STEDMAN.—Although there is no one subject that has been so long and so vehemently discussed by doctors, lawyers and people in general and no public measure directly or indirectly affecting the insane in which reform has been so loudly demanded as that of medical expert testimony in this country, little or nothing has been accomplished. Dr. Chapin's forcible and thoughtful paper makes this plainer than ever. Practical and promising suggestions are made, but nothing comes of them. For example, the proposed employment of experts appointed by the court as aids to the judge in ascertaining the truth, has many advantages. It is by far the surest way in which to secure unbiased expert opinion and at the same time does not interfere with the employment of experts in the usual way by the prosecution and defence, although the testimony of the court expert would carry more weight with judge or jury, who would probably regard it as entirely disinterested. Strenuous efforts have been made to secure legislation to this end, notably in New York and Massachusetts, but thus



far without effect. The past year, you may remember, a committee of the State Bar Association of New York, after conference with committees from the State Medical Associations, reported in favor of a bill providing that certain justices of the Supreme Court should designate a limited number of physicians, who could be called upon by the court, or by any party, to a civil or criminal action to testify in cases necessitating the employment of experts, but without limiting the right of parties to call other expert witnesses as heretofore. This bill passed the Assembly, but was defeated in the Senate. The expectation is that it will become a law next winter. I am sure we all devoutly hope so. It would be the first encouraging step toward real reform in this direction that has yet been taken. A great many alienists, to my knowledge, have been interested—not a few actively—in the solution of this question by some such means, but everywhere they are met by determined opposition to legislative action, chiefly of lawyers, and a few physicians to whom the accurate determination of the mental condition of the accused is secondary to the success of the particular side of the case upon which they are engaged and they are naturally not at all concerned in upholding the reputation of the expert and the dignity of the medical profession. Court experts in mental cases have long been utilized in Germany and with the best results in the way of speedy settlement of such questions. As a consequence, the sensational, long-drawn-out murder trial, with its array of medical experts on either side whose conflicting testimony makes them the butt of public ridicule, is almost unknown in that country. In certain especially obscure or important cases, where the sanity of the accused is involved, it is there a common practice for the judge to send him to a hospital for the insane for observation pending the determination of his insanity, and it is this object that I had foremost in mind when I arose, to again advocate before this Association the general adoption throughout the country of hospital-observation in such cases. If in any way the real facts of a person's mental condition can be learned, it should surely be when all his words and acts are exposed for months to the daily scrutiny of physicians and nurses trained in observation of mental manifestations. I hardly need remind you that such a law has long been in active operation in the State of Maine, where such observation is compulsory, and also in New Hampshire, Vermont and Massachusetts, where it is permissive. In Massachusetts we have just extended its application to persons who are under complaint as well as under indictment.

DR. O. R. LONG—I desire to say a few words on this subject. I should, perhaps, introduce myself. Although I have met with you for the past twenty-five years, I have rarely risen on any occasion, except, perhaps, to make a motion to adjourn. This has been largely due to the fact that my work has been entirely along a special line, being Superintendent of the State Asylum for Dangerous and Criminal Insane.

Dr. Chapin's paper raises the question, "What is Insanity?" and upon

this subject we should agree among ourselves; that is, as a society, we should agree upon a classification, and also as to what constitutes an "expert," and agree upon the question finally alluded to by the doctor, whether a man has the right to come upon the witness stand and coin some new classification. We must admit that if this practice is allowed, it is likely to result in making the profession the butt of ridicule on the part of newspaper reporters and the laity. I do not think it would be presumptuous on the part of the Association to suggest to the courts the best method of selecting experts, as well as defining the term "expert."

The question of responsibility, where the mental responsibility of the person charged with crime is involved, Michigan laws permits the judge, in his discretion, to summon experts for his own enlightenment, and requires that the consent of the court must be obtained before any person can appear as an expert. I have had considerable experience along this line, and have noted that the law is not as efficient as might appear at first glance. Often it works out something like this:

The court will summon an expert from a distance; often a man of long asylum experience, well qualified and unprejudiced. The defence is permitted to put against him on the stand a physician who practices in the vicinity where the jury lives, as well as the criminal. Usually this is a physician who has had no experience in the treatment or observation of the insane, yet his testimony will, in the minds of the jury, be considered of more value than that of the expert from a distance. The jury will reason, perhaps, that the witness has been the family physician or acquaintance of the person charged with the crime, has known him for a long period, therefore, his testimony as to his mental responsibility should be better than that of the physician who is an entire stranger. I have been upon the witness stand when the arguments of the attorney were upon these lines.

As an illustration of the workings of the Michigan law, I will refer to a case which occurred in our State recently:

The charge was murder; the defence was insanity. The court summoned two asylum superintendents as experts in the case. They came as unbiased witnesses of the court; they both testified that the man was irresponsible for the act. The prosecuting attorney immediately put on for rebuttal testimony physicians practicing in the city where the trial was held. The result was a disagreement of the jury. One year after, the case was re-tried; the two asylum superintendents, who testified by request of the court in the first trial, were summoned by the defence, and immediately testified that the party charged with the crime was irresponsible. The court at this trial summoned two other asylum superintendents as experts, and these two gave a directly opposite opinion. I was consulted at the last trial; the man was convicted. I am not attempting any defence of my testimony, but am showing that, notwithstanding the physicians summoned as experts at the second trial were all asylum superintendents, they were evenly divided upon the question of whether the accused was sane or insane. I recognize this is probably an extraordinary

occurrence, yet it shows that the appointment of experts by the court does not always bring about the same results.

I wish to say one word further regarding Michigan's law; that it is one of the few States that has provided an institution for the criminal insane. The law specifies that any person charged with certain crimes, who is insane when called to trial, may be committed to the criminal asylum until restored to reason, and then returned to the custody of the court, where he may be tried for the original crime or discharged, as the court may see fit. If the defence be insanity at the time the crime was committed, and he is acquitted upon these grounds, the court is required to summon experts to determine if the insanity in any way continues, and if found that it does, instead of being allowed to go at large, he is committed to the criminal asylum.

DR. SANGER BROWN.—I just want to make a small contribution to this discussion, and in the line of some experience I recently had, which has seemed to me to work exceptionally well.

I am not well versed in the laws of the different States on this subject, but I know in Illinois, where I reside, and in Iowa, we have a law, and I think it a law of recent enactment, which permits an expert to sit through the trial and hear all the evidence, and then sum up the different witnesses' testimony and express his opinion to the jury as to whether the case is insane or not and why.

In a recent case for murder which I attended, being summoned by the State, I sat through for seven days a trial where insanity was set up as a defence against a charge of arson, in which the whole community, pretty much, with the exception of the State's attorney and one or two of his assistants, were in favor of the defendant. She appeared in court with her three little children and made a very strong sensation, that is, impressed the whole community with the fact that she ought not be convicted. The newspapers took it up and did not comment favorably on my attendance, I being from some distance. The lawyer who defended her was postmaster of the country town, and had the local profession testify in her favor, so that if I had been denied the privilege of taking up the evidence witness by witness and analyzing it in my own way before the jury the defendant undoubtedly would have been acquitted. But after a few hours of patient explanation I was able to turn the tide and the defendant was promptly convicted.

DR. C. B. BURR.—I encountered an interesting departure from ordinary precedents in the medical jurisprudence of insanity, some two or three years ago in one of the northern counties of Michigan. I was summoned to give testimony in a case of insanity. It was so plain that he who ran might read, but there was quite an effort made, notwithstanding the young man's condition, to prevent his commitment to an asylum. A jury was demanded and after it was impaneled—an extraordinarily fine jury it was

too—the prosecuting attorney sprung a complete surprise. He said: “Gentlemen of the jury, this court is organized under the proceedings which govern in the condemnation of land. You are the sole judges as to the admissibility of evidence. The judge of probate will swear the witnesses, but you will pass upon the testimony.” Testimony was given in respect to the young man’s conduct. Objection being raised, the lawyers would discuss the matter of its admissibility and finally refer it to the jury. The foreman, responding for the jury, would say something like this: “If I fail to voice the opinion of my colleagues, I hope I shall be interrupted, but in the absence of such interruption I shall assume that their sentiments agree with my own. Personally, I believe it would be well to hear the testimony.” Testimony was introduced in respect to some postal cards the young man had written to the physician. The physician—himself a witness—was asked what the writing was. He replied that it was very obscene. “What were the exact words?” “I do not remember, I destroyed the cards. They were extremely obscene.” The boy’s counsel demanded again and again the *exact words*. Finally the foreman of the jury arose, raised his hand and said: “I object to this myself. The doctor has testified that the writing was very obscene and this is quite enough for the jury.” Testimony on the question of heredity was presented. The boy’s counsel objected. It was debated and finally referred. The foreman said: “I am a layman and do not pretend to understand these things, but had supposed in insanity, as in physical diseases, the question of heredity was of considerable importance. We are fair-minded men and will discriminate. We want to arrive at the exact truth. I think the jury will hear what the witness has to say.” The upshot of the matter was that the *whole truth* was brought out and the boy was committed to the asylum.

DR. T. J. W. BURGESS.—The question seems to me to be a very simple one. What does the public want in all these trials? They want justice, or as nearly that as they can get it. If they cannot get the absolute justice which they want, how are they going to get as close to it as possible? Are they going to get it by allowing each side to call expert testimony? Not at all. An expert may take up a case purposing to give an absolutely impartial opinion, but sooner or later the desire to win, inherent in us all, comes into play and he becomes more or less biased. I know this is the case with myself and I think it is so with the rest of mankind.

My own idea is that the federal government in your country, the Dominion government in ours, should appoint three or five experts in all cases of doubtful sanity and let these men decide the point. Have no expert testimony called for either side. Whether you call three men, or five men, let the majority of the three or five, right or wrong, decide it. In that way, I think, you are going to come nearer to justice than in any other way, and justice is what the public wants.



DR. E. N. BRUSH.—I think Dr. Burgess has stated the truth when he says experts are very often prejudiced by the fact that they are called by one side in a controversy. It is very hard work to be called by the prosecution and not wish its contention to prevail, and *vice versa*. I doubt very much whether the calling of experts by the court would solve the problem, at least, it would not in the United States, because a person on trial has the right to summon anyone he pleases who has any light to throw on the subject. At the same time courts all over the country have also the right to summon independently any witness that the court believes can throw any light on the subject which will aid the court in giving an opinion, or a jury to reach a verdict. This is done frequently.

Over thirty years ago, as a medical student, I attended a trial for malpractice in which expert testimony was given on both sides of the case, but at which the court summoned upon its own motion three physicians to whom it gave instructions to examine the plaintiff and testify to his actual condition and upon their testimony the verdict of the jury was based.

One of the most interesting trials I ever attended was a case involving the question of insanity after conviction and sentence of death in which the court appointed as referees Drs. Chapin, Dana and Allan McLane Hamilton to sit with the court, and listen to the testimony and examine witnesses. The United States district attorney propounded to us the usual preliminary questions, and then turned us over to these medical men. It was a searching examination, but it was fair, and the questions were intelligent. If questions were asked we could not answer we had not the least hesitation in saying so, because we knew the medical men would understand, when we said we did not know, that we could not be presumed to be able to understand all questions.

The great difficulty in securing experts who will impress the jury as impartial is, that being called by one side or the other, they often appear to find it necessary in giving their testimony to evade a direct answer which may be favorable to the opposite side and they will argue with the court and with the attorney on one side or the other and make themselves appear to be partisans, when they are really trying to be as impartial as they can, but are afraid they may give the impression of being uncertain, of having no positive opinion. Then they fear they will incur a certain amount of disgrace if they say, "I don't know."

The difficulty is, as Dr. Burgess has pointed out, the danger of partisanship. In giving testimony, I have no hesitancy in saying that I do not know; it is my duty to do so if that be the case. I have never felt that it was incumbent upon me to argue with a lawyer. The expert witness who becomes so interested in the outcome of a case as to be anxious for his "side" to win, or who feels that he has been overcome in the contest, if the verdict is against the side which called him, is a partisan and cannot, no matter how honest he may be, avoid the appearance of being a partisan, to the discredit of his credibility, and of expert testimony in general. So also with the witness who sits with the counsel and acts as a medical



coach. I have never hesitated to suggest questions to be propounded to witnesses, medical or lay, the answers to which might help me in forming an opinion, but such a course even I recognize as suggestive to the court and jury of partisanship. To suggest catch questions or questions intended to confuse or discredit a witness is certainly open to such suggestion and more often has that result than any other.

In regard to the hypothetical question I do not believe that it is of any real value. The hypothesis of one side is as a rule so drawn as to demand an answer favorable to its contention. The question of the other side demands a diametrically opposite answer and the opinion of the witness testifying as an expert is thus made to appear to the jury as of little or no consequence.

Some time ago I was given a hypothetical question, and told to exclude from my answer any knowledge I had from my personal examination of the prisoner. I said: "I cannot do so, and I will not answer the question unless I can use what knowledge I have of the case." The court sustained me. It is impossible for a witness to exclude from his mind, in giving his answer, part of his knowledge of the case.

DR. BURGESS.—Dr. Evans is quite right in saying that by the constitution a man on trial has a right to defend himself in any way he chooses, but cannot the constitution of the United States be amended? I know our Canadian constitution could be if we set about it.

DR. BRUSH.—Some of us think it can be and some think it cannot be.

DR. C. K. MILLS.—This is a very old question. I have been doing so-called expert work for many years. I have heard time and again different methods advanced for curing the evil. Several of those who have already taken part in the discussion have given some of the real reasons why we cannot improve much on present methods.

In the first place, our constitution and that of England require that every one on trial should be allowed every possible legal means of defence. No matter how many experts are appointed by the court the defence will also have the right to call experts. The fault is not in the constitution, not in our forms, but it chiefly resides in the conduct of individuals. There is sometimes an absence of the principle of fairness in the methods of investigation and trial, although this is not always or even usually the case. Recently in a case in which I was a witness there were eight experts on each side. The same opportunities were not allowed to the so-called expert witnesses on the two sides to examine the accused. For instance, it was insisted that the experts for the commonwealth should be present when the witnesses for the defence made their examination. On the other hand, the experts for the commonwealth were allowed to examine any number of times, with or without the presence of the experts for the defence.

The appointment of court experts will not solve the difficulties. Great abuses may come from the appointment of so-called State experts. Personal and even political influences might play some part in their appointment. So it seems to me the present method is all right if it is carried out properly in particular cases.

There is much to be approved in prolonged hospital observation, and any law that allows such observation to be made equally by men selected for the defence, the prosecution and the court should result in some good. It may also be of some use at times to allow the defence and prosecution to choose a third party or parties as arbiter or arbiters. In one such case, however, in which I was chosen for this purpose the result was not altogether satisfactory to parties.

DR. H. W. MITCHELL.—I wish to call the attention of the Association to a method which has done much in one State to eliminate partisanship from medical testimony in the cases of alleged criminals who plead insanity in defence.

For several years it has been the custom of the Maine criminal courts to take advantage of the observation law, which provides that in the case of a person pleading insanity as a defence to crime, that person may be committed to one of the two insane hospitals of the State for prolonged observation and report to the court as to mental condition. The period of observation can be extended at the pleasure of the hospital superintendent. He is required to report to the court at each criminal term whether or not it is necessary to detain patient longer for observation.

Having spent some two or three years in the Massachusetts Hospital for Insane Criminals, I know from experience the extreme difficulty that exists in making a diagnosis of insanity in these cases, and also the frequency with which the problem is complicated by malingering, which can be detected only by prolonged observation and careful study. Under the provisions of this law, every facility is given physicians for making careful study of the case and forming a reasonably accurate opinion as to the person's responsibility, which can be given without any partisanship, as the law requires that reports should be made to the court, and it frequently happens that the hospital superintendent goes to court without knowing which side will summons him as a witness.

There has been, to the best of my knowledge, no difficulty in securing reasonably satisfactory justice in a quiet and non-spectacular manner, with persons of moderate means who have been disposed of under this law. Whether or not the law would work equally satisfactorily in the case of a rich criminal, who might secure many medical experts, remains to be tested.

DR. C. G. HILL.—I quite agree with Dr. Mills in regarding the old system as probably about the best we can devise, all things considered. I admit there is much adverse criticism of our present method and many

suggestions for its change, but these come chiefly from the legal profession and a few medical men. If we dare to depart from the law-made insanity as interpreted by the courts, and base our opinions on the insanity as we see it in our institutions and study it at the bedside our motives are impugned and we are soundly abused by the lawyers, the press and the public, constituting themselves experts on matters of which they know very little. Dr. Burr's experience with a jury brings out a very strong point. I have great faith in a jury. They may not be experts in psychopathy, but they bring to bear on the case good common-sense and come a little nearer the truth in their conclusions than can be reached by any other method yet devised. Though hedged about with rulings, admissibility of evidence and all kinds of technicalities, with court-appointed experts thrown in, the average juror is the judge of the law and the evidence, and down at the bottom of his heart he weighs many things not admitted by the court, and brings in the verdict accordingly. The experts appointed by the court would not be infallible by any means, nor unprejudiced, as few men are so judicially constituted as not to lean a little to the power that appointed them. In a celebrated trial in this country some years ago the government called practically every expert of prominence in the United States, and the defence was only able to command a few obscure men. The jury promptly convicted the prisoner and he went to the gallows, the plea of insanity having been completely snowed under, but the post-mortem showed a defective brain and subsequent reflection has led to the universal diagnosis that the man was a typical paranoiac. Let the jury be the judge of the evidence, the good old cross-roads common-sense jury, that will weigh the evidence from its own standpoint, will place its own standard on the experts as well as the other witnesses, and we will come pretty near the truth. In order to be unanimous, though they may have to "toss up a penny" or play a game of "seven-up," they will average about as near the equity of the case before them as the most learned expert the court might appoint.

DR. E. E. SOUTHARD.—As pathologist, I should like to know what lesions indicating paranoia were found in the patient mentioned by Dr. Hill.

Aside from this detail, as psychologist I was much interested in Dr. Evans' paper and particularly in the penultimate paragraph. As I understand it the basis of his contention is that diagnosis is difficult or impossible. Even in questions of law, Dr. Evans notes, the Supreme Court of the United States may be unable to pass judgment without disagreement, four men against three in certain instances. The point is, however, that, disagreement or no disagreement, the Supreme Court does eventually come to a decision and a decision which is unbiased. Similarly in questions of insanity, although we cannot require absolute agreement on the part of experts, we can and should require the best diagnosis obtainable.

Dr. Evans appears to whitewash the situation and to believe that no improvement can be made in our present procedures. On the contrary,

however, I believe that the present state of medical expert testimony in this country deserves to be severely criticised and I welcome the abundance of criticism evoked by the papers of to-day. Dr. Evans appears to think that experts cannot arrive at sound conclusions. As Dr. Hill has mentioned autopsies as confirmatory of diagnoses, I should like to call attention to some facts which I have collected at the Danvers Hospital. I do not wish to say that our results are better than those obtained in other hospitals; but the Danvers Hospital data are in good shape for obtaining an idea of the probable accuracy of diagnosis as made in a democratic fashion by several men.

I have correlated the autopsy findings with the clinical diagnoses in a long series of cases at the Danvers Hospital. The cases have been diagnosed by good men, several of them members of this Association. Their diagnoses have been recorded in books at the time of examination. I have used for the correlation these recorded diagnoses and have not employed the revised post-mortem clinical diagnoses or the diagnoses of the annual reports, so that I believe the diagnoses which I have considered represent the practical difficulties which confront the diagnostician.

The results show that in general paresis there is a probable error in diagnosis of about one in ten. In the case of senile dementia there is a somewhat larger error. If the cases of general paresis and of organic brain disease be lumped together for diagnostic purposes, as in the admirable statistics of Dr. Abbot, the error is reduced below 1 per cent.

The results in manic depressive insanity and in dementia præcox have not been formulated. Doubtless the results would not be so striking as in the organic group. Still I maintain that with hospital observation under the best circumstances a very high degree of accuracy in diagnosis can be obtained. I heartily agree with many of the gentlemen who have spoken here, insisting on the value of hospital observation for the medico-legal diagnosis of insanity. I should like to inquire whether anyone present has really any important point to make against hospital observation as the best method for determining the insanity of persons accused of crime.

DR. E. N. BRUSH.—I am in favor of hospital observation, and it is not by any means necessary to have law in the matter in all cases. I had an illustration of that only recently. A man had committed a crime against the United States government and it was agreed by his attorney and the United States prosecuting attorney that he come to the hospital and have his condition investigated and remain there long enough to have a diagnosis made and his attorney and he agreed to abide by the report. He is now serving a term in the penitentiary as the result of the report. It saved a necessarily long and tedious trial and I think that justice was in this way but served.

I think in regard to this matter of expert testimony we are taking ourselves a little too seriously perhaps and not considering the other side of the case. Experts have been made to appear ridiculous before the courts



and the public, not so much because of the fault of the experts, but because of the way in which the trial has been conducted by the attorneys, and Dr. Mills has called attention to this.

In regard to a notorious trial, it has recently come out that one of the chief attorneys for the defence spent, according to his own statement, large sums to keep certain testimony in the background so that the man would not be sent to an asylum, but should be found insane at the time of the commitment of the act, but not before that time or when on trial.

I have known of other similar cases in which all the testimony in the case was not desired to be brought into public light, in which the experts were kept in the dark as to matters, upon which, if they had only had the information, they might have given more satisfactory testimony, both to themselves and to the cause of justice.

DR. B. D. EVANS.—The discussion has so fully covered the ground which the papers, both Dr. Chapin's and mine, were intended to cover, that it leaves very little for me to say, except that I am practically in accord with most everything that has been said. A number of the gentlemen have expressed ideas and plans of remedies which are impracticable and which cannot be carried into effect, and some have suggested methods which are impossible under the constitution of the United States. I have no doubt that if we could change the constitution at will, that it would be changed a good many times every year. Fortunately for this great government, it cannot be so easily tampered with. There may be some little inconvenience suffered in the courts and by private individuals as well, but for the good of the whole people it is a pretty safe old document that I think will stand the test of years to come.

In reference to the admission of court physicians, whose report shall govern the verdict, it would be far from ideal or acceptable to the laity or courts of law, and it would mean that the physicians would try the case. No court would approve of such a procedure, and no legislature with good lawyers in it would pass a law which would leave the entire guilt or innocence of a person being tried in the hands of a board of physicians. Of course, if you and I and your brother were the three physicians, it might seem all right, but tell that to the public and the courts, and the scheme will be promptly rejected.

I have a very decided feeling about the manner in which we seek to adjust unsatisfactory conditions of this sort. There are few physicians who have had any experience in the courts in important cases, but have had their opinions severely criticised by people of ability and by physicians of equal ability. Now, as we take up the matter of the discussion of this subject, we shall discuss in the hearing of the public and the press the main proposition or the question of the reasons for disagreement among experts, as if we, the speakers, have all along been right and the fact that there is so frequently a difference of opinion has been due to the errors and unwisdom of those who have been so unfortunate as to disagree with



us; we go so far as to say that it is a disgrace and a stigma on the profession. This order of criticism indicates that we are arrogating to ourselves all the purity of purpose, perfection of training and proficiency in equipment. Such a course of reasoning and such an order of criticism settles nothing and does harm rather than good. As I set forth in my paper, I maintain that men of equal ability with the same set of facts before them will often reach different conclusions, and that largely explains the matter.

Much has been said of the court selecting the experts. In two murder trials I was selected by a justice of the Supreme Court of the State of New Jersey, who was afterward chief justice, and is now chancellor of the State, to appear for the defense and for the prosecution; that is, I was the sole medical expert witness in the case, and was examined and cross-examined by the counsel of both sides, and I regret to say to you, that contrary to my judgment, there was a conviction in both cases; one man was sentenced to death and one given an indeterminate sentence. The man sentenced to death I believe was unjustly so sentenced. I gave as clear testimony as I knew how to give. I did not intend to give such testimony as would enable the jury to hang the man, but they brought in a verdict of murder in the first degree, and I had to work very hard to have his sentence commuted by the Court of Pardons.

The having of one expert witness and allowing him to be examined by both sides, is calculated—when one lawyer is much abler than the one on the other side—to result in a miscarriage of justice.

The "three physician" idea that Dr. Burgess spoke of, is one I espoused years ago and wrote a paper endorsing it and read it before the State Medical Society of New Jersey, but after a more thorough reading upon the legal and social aspect of the subject, I submitted it to numerous lawyers; they said that my scheme was good, and I think it was good, and I think Dr. Burgess' scheme is good, I believe in it—but what is the use of talking about something we cannot do? I think the suggestion that it would be ideal for us to always agree is a good one, but how in the name of heaven can we do it, and as thinking and reasoning men retain and exhibit any individuality or any independence of thought?

The matter of a change in the constitution of the United States has been discussed as far as time will permit, and since we possess no power to change it, we may better leave that part of the question for further consideration.

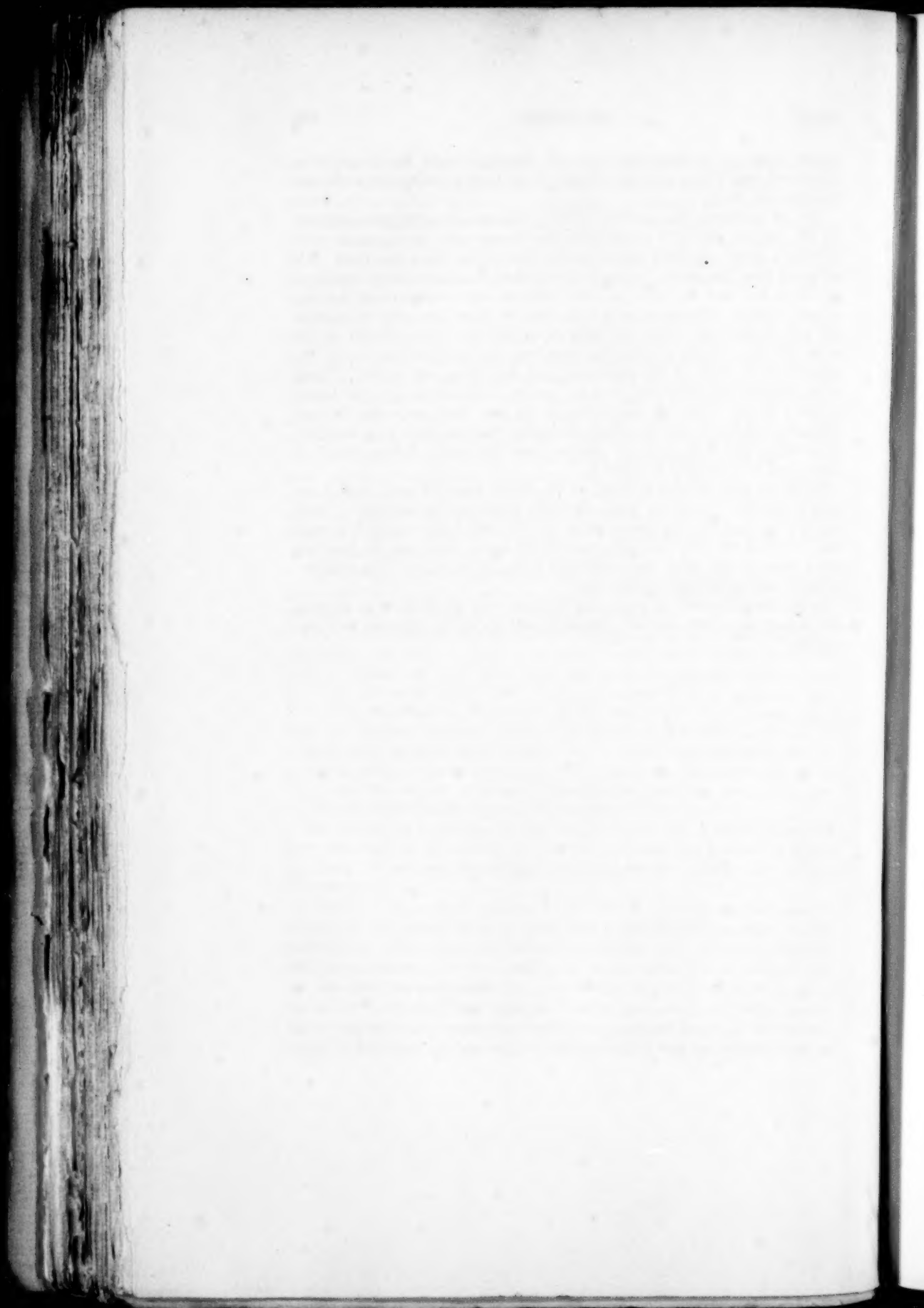
I desire to say a word relative to the matter of subjecting an accused person to the examination of physicians representing the State or the prosecution. I have been advised on this subject by a number of able constitutional lawyers, and their opinion is to the effect that an accused person has certain rights under the constitution which cannot be violated, if his counsel properly protect him, and that he may not be subjected against his will to the examination and scrutiny of anybody that may be selected, either by the court or any other authority, and if that be correct, then we

cannot have our troubles righted in this direction under our present constitutional regulations and the rulings of the higher courts and such contentions are futile.

One of gentlemen has spoken of the readiness with which the members of the medical staff of a hospital for the insane agree on diagnosis after holding a newly admitted patient under observation for a few days. We all know how they agree; but we understand that we have got it coming to us when we have to make up our statistics and classifications for the annual reports. We know, as a rule, that we have a number of cases at the end of the year which are difficult to classify. One member of the staff will want to put a particular case here, and another there, until the superintendent tires of the discussion and determines the matter. There is no serious confusion then; you are not in court and you are not forced to hasty action. You are just trying to do your duty and make the best possible classification in the official document, but you have your troubles, perplexities and differences of opinion, just the same. I have had it, I know, and I am willing to admit it.

When we have trouble in court, as Dr. Brush has very aptly said, if we have to hesitate, do so, but when you don't know, say so promptly. I may say that in court this has always been my rule, and I have found it a good one. I think the jury has more respect for a man who says he does not know than for the other man who tries to avoid the issue. The straightforward way is the only correct way.

It has been a matter of very great pleasure and gratification to me that the papers have had such an extended and intelligent criticism and discussion.



FORMS OF INSANITY IN FIVE YEARS' ADMISSIONS  
TO, AND DISCHARGES FROM, THE HOSPITALS  
FOR THE INSANE IN MASSACHUSETTS.\*

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In order that preventive and curative measures may be most effectively applied in relation to insanity, it is important to know what kinds of insanity occur in any community, the relative numbers or proportions of the different kinds, and their outcome. Knowing these, we have a standard or norm for that community, from which to determine what kinds and proportions of cases will best repay prophylactic and curative efforts, and with which to compare the results of such efforts.

Several years' records of one large hospital will furnish approximate figures for such a standard, but it draws its patients from too small and too ill defined an area to be free from the possible influence of local conditions. If, then, we can get data from a sharply defined region large enough to support several large hospitals, and having varied conditions of living, we should be able to establish a present norm of incidence and outcome of insanity. The figures here given represent an attempt to find such norms. They are, however, only suggestive, for the period covered is too short and there is too little uniformity and accuracy of diagnosis to make them more than this.

The Commonwealth of Massachusetts represents such a sharply defined area. It has several State hospitals for the insane, varying in capacity from about 500 to 1600 beds each, and several private hospitals and licensed physicians who take care of insane patients. From all these hospitals and physicians the State Board of Insanity has required uniform statistics concerning the insane patients under their care, and has published certain of these data in its

\* Read at the sixty-fifth annual meeting of the American Medico-Psychological Association, Atlantic City, N. J., June 1-4, 1909.



annual reports. Previous to five years ago it tabulated the data from the state hospitals and the McLean Hospital only. Since then it has included those from all the smaller private hospitals and licensed physicians as well. It is from these data concerning all insane persons in the State of Massachusetts who have required hospital care during the last five years that the figures in this paper are drawn. Through the courtesy of the Executive Officer of the Board the figures for the current year have been included in the table which I shall present, and I take this opportunity to express my appreciation of his kindness in giving me access to them in advance of their publication.

Massachusetts, though small in area compared with many of the States in the Union, has a large population—somewhat less than 3,000,000 on October 1, 1903, and somewhat more than 3,000,000 on October 1, 1908. Besides the people native to the State for three or more generations, there are large numbers of Irish, French-Canadian, Italian, Russian, and Portuguese birth or descent, with a fair sprinkling of other European and Asiatic nationalities. There are comparatively large agricultural regions, thinly populated with farmers. There are small towns, and small and large cities. There are large manufacturing communities. There is a long coast line, with excellent harbors, and there is much fishing, and coastwise and foreign commerce. There are numerous railways, both steam and electric. There are abundant schools and colleges. The only great industry that is not represented is mining. There is local option as to the sale of alcoholic drinks, and high license where they are granted. It would seem that such a community, with such varied conditions of living, should furnish the data for determining approximate standards of incidence and of outcome of insanity, and that wide departure in any given community from such standard would be due to local or racial conditions peculiar to that community.

During the five-year period between October 1, 1903, and October 1, 1908, 14,770 patients were admitted, and 11,903 were discharged. The State Board classes them under 47 diagnoses, and these are condensed from the more numerous diagnoses submitted to it by the different hospitals. It is improbable that there are so many different *kinds* of insanity, though there are many *varieties*. The number merely illustrates the difficulties of diag-

nosis, and different points of view in diagnosis. It seems to me that there are not many, perhaps eight or nine, *fundamentally* different kinds of insanity. Briefly, the grounds for this belief are the following inferences and facts:

All mental activity is in its fundamental nature a reaction of the individual to his environment, himself, and all his own mental and physical reactions being included in the environment. Each individual reacts normally provided the organs for such reactions, the nervous system in all its ramifications, is normal. If this nervous system is altered in any part, whether temporarily or permanently, that part cannot subserve its reactions normally. The reactions that do result, if they are not entirely abolished, are *abnormal*, *i. e.*, are *symptoms* of disease or pathological condition of the nervous system. The symptoms shown by any given case of insanity will be determined by the distribution, extent, intensity, and nature of the pathological changes (whether temporary or permanent) in the nervous system; the parts that are unaffected will continue to react normally. Since we know the nervous system only imperfectly, and its pathology still less perfectly, and since we cannot examine it directly during the life of the patient, we *infer* pathological changes when we see abnormal reactions. Often we are at a loss to even guess with probability at the nature of the underlying change. But when we find certain types or groups of abnormal reactions, *i. e.*, symptoms, we *infer* certain types of underlying pathological change or condition. There are many symptoms and combinations of symptoms the relative value of which we do not know; hence individual judgments will vary concerning the inferences that may properly be drawn from them. Thus we get a wide range of nomenclature or diagnosis. And since we find in a disease like general paralysis, whose pathology is fairly well known, a very great variety of symptoms, and in individual cases peculiar combinations of symptoms, yet, in all, a common pathology, it is fair to infer that there may be an equally diversified symptomatology as a result of some other pathological condition which is less well or not at all known. And, in fact, I believe this to be the case. And since there are comparatively few kinds of pathological changes which occur in other organs, so, I believe, it is with the nervous system.



[illegible]



The multiplicity of diagnoses in the hospital reports arises partly because some of the hospitals and physicians still adhered, during part of the five-year period, to the older nomenclature of acute and chronic melancholia and mania, etc., while the rest have adopted the Kraepelinian nomenclature to a greater or less extent; and partly to a tendency to use symptomatic names (as confusional insanity), or specific etiological names (as myxoedematous insanity), for cases which do not fall clearly within the larger Kraepelinian groups, yet which seem too definite in their nature or symptomatology to be put into the category of undiagnosed. Not only for convenience, then, but because they seem to me to belong together, these 47 diagnoses have been distributed among nine groups.

#### ORGANIC BRAIN DISEASE GROUP.

The largest group is that of organic brain disease, in which there is known loss or destruction of nerve cells, whether through the late effects of a previous syphilis, or senile atrophy, or arteriosclerotic malnutrition, or pressure by tumors, or as the result of hæmorrhage or other trauma, embolism, or thrombosis. The reported diagnoses classed in this group are senile insanity, general paralysis, coarse brain lesion, organic brain disease, choreic insanity, the latter being undoubtedly the dementia of Huntington's chorea. The diagnoses in this group are probably pretty accurate, and the percentage of probable error is very small. Of this group 3609 cases were admitted, 24.4 per cent, or nearly a quarter, of all admissions; 3352 cases were discharged, 28.1 per cent of all discharges. There was but one alleged recovery, which was doubtless an error either in diagnosis or in estimation of the condition on discharge; 88, or 2.3 per cent of those belonging to this group who were discharged, were returned to the community able to work enough to support themselves; 2762, or 82.4 per cent of this group who were discharged, died, a very high mortality, as would naturally be expected. Prevention may be effectively applied to one-third of this group—general paralysis. Cures cannot be expected.

#### DEMENTIA PRÆCOX GROUP.

The next largest group, nearly as large as that of organic brain disease, is the dementia præcox group, comprising 3585,

or 24.2 per cent of admissions, and 2813 or 23.6 per cent of discharges. The fundamental pathological condition underlying the symptoms of this large group is unknown, though recent investigations by Sioli<sup>1</sup> point to the possibility of definite cell changes being demonstrated. At all events the permanent mental defect suggests the probability of permanent brain-cell changes. It is possible that in a few cases the destructive process, if such there be, may be arrested before the damage it has done is irreparable, repair may take place, and recovery occur; but this is not often, and, in the absence of known pathology, there is always doubt of the correctness of the diagnosis in the cases that recover. I have classed as belonging to this group the diagnoses dementia præcox, paranoid condition, delusional insanity, chronic dementia, secondary dementia, chronic mania, obsessional insanity. The probable error of diagnosis in this group is considerably larger than in the previous one. More cases doubtless belong in this category than are here assigned to it, a large proportion of the undiagnosed cases, some at least of the paranoia group, and probably some from the manic-depressive group, undoubtedly belonging here. On the other hand, some of the cases classed here probably belong in the manic-depressive group. The difficulties of diagnosis are largely among these two groups, and those of paranoia and involution psychosis. Of this group, 106, or 3.7 per cent, recovered; 356, or 12.6 per cent, became capable of self-support; while 1146, or 40.6 per cent, died. The rate of recovery or capability of self-support is quite low, the mortality pretty high. We do not yet know against what to direct preventive efforts, nor curative measures, as far as this group is concerned. Re-education of the demented, however, holds promise of some amelioration.

#### MANIC-DEPRESSIVE GROUP.

The next group is the manic-depressive group, the fundamental change in which is *fatigue*, or a closely analogous condition, as it seems to me; that is, a diminution of functional capacity due to functional over-activity. It would take too much time to give the reasons for this belief, so I will not attempt it. The diagnoses

<sup>1</sup> Sioli: Histologische Befunde bei Dementia præcox. Author's abstract in Zentralbl. f. Nervenheilk. u. Psych., Mar., 1909, p. 220.

included under this head are numerous, including manic-depressive insanity, confusional insanity, neurasthenia, acute melancholia, hysterical insanity, acute mania, traumatic insanity, periodic or recurrent insanity, psychosis with somatic disease, insanity of pregnancy, exhaustion psychosis, amentia, compulsive insanity, acute hallucinosis, Graves' disease. I shall not attempt to defend this grouping, for, as in the case of the preceding group, the probability of error in diagnosis is fairly large, some cases classed here undoubtedly belonging to that group and *vice versa*. I will say, however, that I made this grouping of the diagnoses before determining the figures belonging to them, with the exception of traumatic insanity, which I first placed in the organic brain-disease group; but it was evident that the outcome of these cases precluded any permanent organic brain disease, and they were probably, therefore, rather of the accident neurosis type.

Of the manic-depressive group 2591 cases, or 17.9 per cent of all admissions, were admitted, and 2268 cases, or 19 per cent of all discharges, were discharged. Of the latter, 1054, or 46.4 per cent, recovered; 308, or 13.5 per cent, became capable of self-support, and 385, or 17 per cent, died. The recovery rate here is large, the mortality comparatively low. Believing, as I do, that fatigue is at the bottom of these cases, prophylaxis should be directed to education of the public in the perils of overwork, and treatment to the resting of these cases. Efforts in both directions should prove useful.

#### TOXIC GROUP.

The toxic group consists of those cases in which there is a known poison introduced into the system from without, as in alcoholism and other drug psychoses, or in which a toxæmia can be inferred on pretty strong grounds, as in the deliria of acute infectious diseases and the psychoses in which there is clearly demonstrable metabolic change. The grounds for asserting that dementia præcox, for example, is due to a toxæmia are, as yet, quite inadequate. The diagnoses included in the category of the toxic group are acute and chronic alcoholic insanity, acute and chronic toxic insanity, acute delirium, delirium with somatic disease, Korsakow's psychosis, myxœdematous insanity. Of this group, 2150 cases, or 14.5 per cent of all admissions, were ad-

mitted, and 1668 cases, or 14 per cent of all discharges, were discharged. Of the latter, 829, or 49.7 per cent, recovered, and 311, or 18.6 per cent, became capable of self-support; while 277, or 16.6 per cent, died. The mortality is comparatively low, while the proportion of cases recovered or capable of self-support is large, as would be expected. Here, again, prophylaxis through education of the public, and curative measures, should be especially fruitful.

#### DEFECTIVE GROUP.

The fifth group comprises the cases of imperfect development, and includes the diagnoses of imbecility, mental deficiency, psychopathic inferiority, constitutional inferiority, fixed ideas, and moral insanity. Of this group there were 886 admissions, 5.9 per cent of the total, and 489, or 4.1 per cent, discharged. Of the discharges, 3, or 0.6 per cent, were classed as recovered; this was doubtless an error of diagnosis or of estimation of condition on discharge, and probably arose from a defective having an intercurrent psychosis or an acute exacerbation of symptoms which completely subsided; 79 patients, or 16.1 per cent of the discharges belonging to this group, were capable of self-support; and 172, or 35.1 per cent, died. The proportion capable of independent existence is small, the mortality pretty high. The size of this group does not indicate the proportion of defectives in Massachusetts, but only of the defectives who become insane or are committed as such to the hospitals for the insane. In future generations something may be accomplished in the way of prophylaxis, and by wise treatment, much in the way of amelioration, of defect psychoses.

#### EPILEPTIC GROUP.

Epileptic insanity, the psychosis which sometimes develops in epilepsy, and which is of unknown pathology, comprises the sixth group. This does not include epileptics as such, but only the insane. There were 647 cases admitted, 4.6 per cent of all admissions; and 456 cases discharged, or 3.8 per cent of all discharges. Of the latter, 1, or 0.2 per cent of the discharges of this group, recovered; 31, or 6.8 per cent, became capable of self-support; and 277, or 60.7 per cent, died. The mortality is



very high, the proportion of these returned to the community as self-supporting individuals is small. Here, again, prophylaxis is difficult, and treatment is largely ameliorative.

#### INVOLUTION GROUP.

The next group, a comparatively small one, includes the cases of depression coming first at the involution period of life, usually chronic, and leading to dementia, though not necessarily so. Dreyfus<sup>3</sup> has tried to show that they are really cases of manic-depressive depression, but his demonstration, though able, is not clearly convincing. Its pathology is unknown. The diagnoses included in this group are involution psychosis, melancholia, and chronic melancholia. Some of the cases here figured doubtless belong in the manic-depressive group, a few in the dementia præcox group, and possibly some in the organic brain-disease group. But since there are probably a few cases in each of those groups that would, if carefully diagnosticated, fall in this one, I assume that errors approximately balance each other, not only here but among the other groups as well. Of this group there were 539 cases, 3.6 per cent, admitted, and 414, 3.4 per cent, discharged. Of the discharges, 41, or 9.9 per cent, recovered; 53, or 12.8 per cent, became capable of self-support, and 174, or 42 per cent, died. The proportion of those able to support themselves, is rather small, the mortality is high. As in the case of the dementia præcox group, we are at a loss to know at what to direct our efforts at prevention and treatment.

#### PARANOIA GROUP.

This small group consists of those cases of delusional insanity which begin fairly early in life, and is characterized by the gradual evolution of a system of delusions which grows more and more extensive, until almost everything and everybody in the universe is involved in it; it is chronic in its course, and, progressively, more and more trivial things and events come to have significance as confirming the patient in his delusions. There is no loss of initiative, or of interest in the daily affairs of life, or of memory. The

<sup>3</sup> Georges L. Dreyfus. *Die Melancholie: ein Zustandsbild des Manisch-depressives Irreseins*. Monograph. Jena, 1907.

pathology is unknown. It is a comparatively infrequent form of insanity, much fewer cases arising than the figures here indicate. The diagnosis is often made in cases of manic-depressive insanity or dementia præcox or toxic insanity because of the elaborateness of the delusions that sometimes occur in these diseases. The numbers here given are large because one hospital reports twice as many cases of paranoia as all the other hospitals put together. There should be about 105 cases admitted, 0.7 per cent of admissions. But as the figures stand, of this group, 251 cases, or 1.7 per cent of the admissions, were admitted, and 252 cases, or 2.1 per cent of the discharges, were discharged. Of the latter, 1, or 0.4 per cent, was considered recovered; 39, or 15.4 per cent, were capable of self-support, and 86, or 34.1 per cent, died.

#### UNDIAGNOSTICATED GROUP.

Owing to the difficulties of diagnosis, this is a fairly large group, comprising 512 cases, or 3.4 per cent of admissions, and 191 cases, or 1.6 per cent of discharges. The difficulties of diagnosis lie chiefly between dementia præcox and manic-depressive cases, or between these and involution psychoses. As would be expected, the number of undiagnosed discharges is much less than of admissions, prolonged observation serving to clear up some doubts.

#### SUMMARY AND CONCLUSIONS.

From the foregoing figures it is apparent that nearly half the admissions (48.6 per cent) are of the organic brain disease and dementia præcox groups, and that these yield very few recoveries. Nearly one-third (32.4 per cent) of admissions belong to the manic-depressive and toxic groups, of which nearly half (47.8 per cent) recover. The remaining sixth of admissions is divided among the defective, involution, epileptic, paranoia, and undiagnosed groups, in proportions varying between 5.9 per cent and 3.4 per cent of admissions, except in the case of the paranoia group. They furnish but few recoveries, of which a third are in the undiagnosed group.

If we regard syphilis as the sole cause of general paralysis, more than a third of the cases of organic brain disease are preventable. Abuse of alcohol is the cause of 86 per cent of the cases of the

toxic group. These two preventable diseases constitute one-fifth (20.8 per cent) of all admissions. Prophylactic efforts may well be directed to the control and suppression of these two causes of insanity. Such suppression would indirectly diminish by an undetermined, but probably large, per cent the number of defectives and epileptics. Next in importance, so far as numbers are concerned, would be the prevention of unnecessary overwork, in the hope of diminishing the number of manic-depressive cases.

Until we have learned more by continued study of the causation and pathology of dementia præcox, curative measures will be most fruitfully employed in the manic-depressive and toxic cases, to increase the percentage of recoveries and diminish the number of deaths.

## HUNTINGTON'S CHOREA.\*

By W. H. HATTIE, M. D.,

*Medical Superintendent Nova Scotia Hospital, Halifax, N. S.*

The offering I bring to you to-day is merely an addition to the large number of family trees which have been prepared to illustrate the importance of inheritance in the condition known as Huntington's chorea.

The charts indicate the incidence of this disease in the families and descendants of George M—I and his sister Mary M—I, in so far as I have been able to ascertain it by the rather unsatisfactory method of correspondence. I had planned to viisting the districts in which the disease is most prevalent in the hope of gaining more information than the charts show, but was unable to carry out this intention. As far as they go, I think that the charts are accurate, but they are not complete. Several of the patients indicated have come under my observation, and at least two others, who undoubtedly belong to this group, have been under my care, although I cannot, as yet, find the proper places for them in the charts.

The M—Is belonged to a party of Huguenots who left the town of Montbeliard, or its neighborhood (near the boundary between France and Switzerland), because of the religious persecution which followed the revocation of the Edict of Nantes. While several of the party chose to follow the lead of many of their compatriots and found their way to South Carolina, a number were attracted to Nova Scotia, where they established themselves in the county of Lunenburg, and there experienced the hardships and dangers of first settlers.

Following the peace of 1763, one Colonel DesBarres, a fellow countryman of theirs, who had served in the British army (and

\* Read at the sixty-fifth annual meeting of the American Medico-Psychological Association, Atlantic City, N. J., June 1-4, 1909.



into whose arms, it is said, Wolfe fell at Quebec), was granted a large tract of land at Tatamagouche, in Colchester County, on the northern coast of Nova Scotia, and in 1771 he induced some of those who had settled in Lunenburg to relocate in his domain. Eleven families responded to his request, and among them were the M——ls, with whose descendants we have now to deal, and also the forebears of the T——es, L——es, and P——ns, whose names appear in the charts. The families descendant from these original settlers have largely remained in the county of Colchester, and the restriction of the disorder, so common amongst them, to this locality was at one time attributed, by the laity, to some peculiar local condition.

Both George and Mary M——l suffered from Huntington's chorea, but of their forebears I have no knowledge.

Of George's immediate family the available information is scanty, and my record deals with but one daughter, who married a T——e. The issue from this marriage consisted of two sons and two daughters. Both sons and at least one daughter were choreic. The choreic daughter married a P——n, and four of her eleven children were choreic. Of these four, two at least married, one begetting three and the other one choreic children. Of T——e's sons, we do not know that more than one married. He had five children, of which at least one was choreic. As far as this record goes, therefore—and it is very incomplete—it is seen that 13 of the descendants of George M——l, distributed through four generations, suffered from the disease of which George M——l was himself a victim.

The chart of Mary M——l and her descendants is more complete, although it also is by no means free from omissions. Four of her six children, twelve of her twenty-one grandchildren, fifteen of her twenty-nine great grandchildren, and one of her fourteen great great grandchildren, or in other words, thirty-two out of her seventy descendants, of whom we have knowledge, were (or are) choreic. But few of the great great grandchildren have reached the age at which the disorder commonly becomes manifest, and it is reasonable to assume that further research will discover other cases among less recent generations, so it is quite likely that fully more than half of the descendants of this

woman have been, are, or will become victims of the malady from which she suffered.<sup>1</sup>

It is scarcely necessary to recall to your memory that the nervous disorder with which the name of Dr. George Huntington is associated, is notable because of a marked tendency to transmission from parent to offspring. It usually becomes manifest about the age of 30 or 35; it is characterized by involuntary and inco-ordinate muscular movements which have some resemblance to the movements of chorea; it very commonly leads to marked mental reduction, and Huntington and others have thought that suicide is disproportionately common amongst its victims.

The charts illustrate in a striking manner the tendency of this disease to be transmitted from parent to child. They also show, less completely, that if one generation escapes it, it does not reappear in succeeding generations.

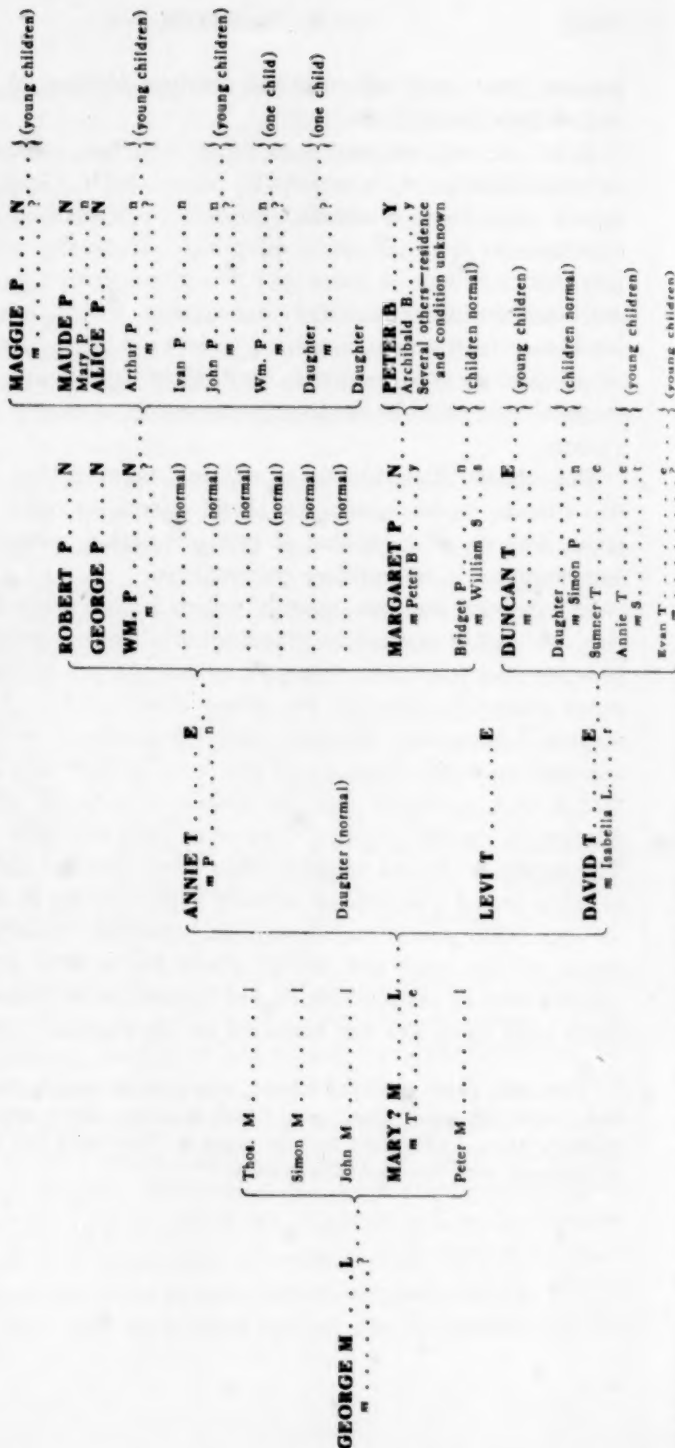
In a general way, the cases of which I have fairly full information are well described in Huntington's original article. I have, however, not been able to learn that suicidal tendencies have been noted unusually often in the group under study. From several sources I have been informed that intemperance in alcohol characterizes so many members of the families included in the group that it is a lay belief that the disease is a result of alcoholism. Numerous choreic patients, however, have not been intemperate. The neuroses do not unduly afflict these people, although many of them are of a somewhat inferior type, lacking in ambition and ability. Mild motor manifestations, especially involuntary movements of the head and tremor about the mouth, are not infrequently seen in cases which do not become more definitely choreic. Such mild cases are not included in my charts.

<sup>1</sup> Since this paper was read I have seen another case in the fifth generation, a second great great grandchild, making thirty-three descendants of Mary M—l who have had the disease. The chart has been corrected to conform with this last observation.

# Charts showing incidence of Huntington's Chorea in the families and descendants of George M . . . . . L and his sister Mary M . . . . . L, presented to American Medico-Psychological Association, June 2, 1909

(Names printed in bold font type represent patients who have suffered from Huntington's Chorea)

## DESCENDANTS OF GEORGE M . . . . . L



# DESCENDANTS OF MARY M. . . . . L



\* Information about Peter J. . . . . y and Benjamin J. . . . . y is not positive, but suspicious





## HEREDITARY CHOREA (HUNTINGTON'S).

BY BEATRICE A. STEVENSON, M. D., AND H. D. PURDUM, M. D.,  
*Assistant Physicians, Northern Michigan Asylum, Traverse City, Michigan.*

This case has been selected, from a comparatively large number admitted to this institution, as one to satisfactorily demonstrate practically all of the cardinal features of this most interesting and obscure disease, Huntington's chorea.

A. W., female, was admitted to the Northern Michigan Asylum, January 15, 1903, and died May 26, 1908.

The abstract of the history is as follows: Father and mother were natives of England, were not related and were, respectively, 23 and 21 years of age at the time of the patient's birth. No nervous peculiarities were recorded in reference to the paternal side of the family.

The maternal records revealed the following: Maternal grandfather, two aunts, three uncles, ten cousins, mother and two sisters had, or now have, this disease. Two brothers have been sentenced for arson and theft and a son of the patient is now in a reformatory.

The patient was born in the State of Michigan, in 1860. The developmental period was uneventful. During her early adult life she enjoyed fair physical health, though she was considered to be of a nervous temperament and was subject to attacks of fainting, palpitation and vasomotor irritability. She married at the age of 24 and had seven children. Her married life was an unhappy one and was attended by hard work and mental stress.

The first choreiform movements were noted at the age of 36. These were soon followed by gradual progressive mental deterioration with heightened emotional feelings. Nine years after the first choreic movements were observed the patient became depressed, entertained fears of becoming insane, had delusions of persecution and grandeur, together with auditory and visual hallucinations. Later on she became irritable, quarrelsome and aggressive, and demonstrated complete loss of self-control by violent outbursts of passion.

On being admitted to the hospital, she was emaciated, weak and in a much neglected condition. Her lips and teeth were covered with sordes, tongue was coated and breath offensive. Temperature was 99.6; pulse, 110. Respirations could not be satisfactorily counted because of the more or less constant choreic spasms which involved the face, trunk and extremities. Patient was unable to stand, walk or sit in a chair without support on account of her generally weakened state and incessant spasmodic movements. A thorough physical examination of the internal organs failed to reveal any evidence of disease. Deep reflexes were mark-

edly exaggerated; superficial, slightly so. Pupils were equal, circular, and reacted to light and accommodation. The special senses were active as far as could be determined. Urine contained a trace of albumin and a few hyalin and granular casts. Blood was light red in color and its coagulability lessened. Hemoglobin was 68 per cent; erythrocytes, 3,468,000; leucocytes, 4948. A differential count did not show any departure from the normal proportion of the various white cells.

One week after admission a mental status was made and the following recorded:

Patient is cared for in bed and requires a great deal of special attention on account of her untidy habits and destructive tendencies. Appetite is good, but sleep insufficient. She is incapable of caring for herself and has been noisy, irritable and restless. Movements are extensive, involving the entire body. The facial expression is constantly changing. The extremities jerk and the body is thrown from one side of the bed to the other. She picks at and destroys the bed clothing and makes a clucking noise with her lips and tongue. A sustained conversation is impossible. Her replies to questions are irrelevant and with great difficulty understood, as she cannot articulate distinctly. Occasionally she whispers to herself or screams as if hallucinated. Deterioration is marked, consciousness clouded and orientation imperfect.

Memory for both remote and recent events is poor, and chronological sequence markedly impaired.

Ideation is imperfect, patient being unable to associate properly. Some distractibility with flight of ideas and looseness of thought connection is noted.

Judgment is greatly affected, this being partially due to memory impairment and partially to delusional ideas. The delusions entertained are of an expansive and depressive nature, and are evidenced by her actions and fragmentary remarks. She has no insight into her condition.

The emotional state is one of more or less constant irritability. The affect is completely changed and patient is violent toward those who care for her. The finer sensibilities are blunted. Hunger, fatigue and sexual feelings are more or less in abeyance.

Will power is diminished, and impulsive and compulsive acts occur, patient having attempted suicide several times since being admitted. Occasionally she resents attention and becomes quite aggressive and violent.

The above physical condition and mental peculiarities remained more or less stationary except that the mind gradually deteriorated and the body became weaker. Suicidal tendencies and delusional ideas faded as the dementia progressed. It was difficult to prevent bed sores, as the friction produced by the constant muscular spasms wore away the skin. It became necessary to remove the three central incisors from the upper jaw, as the continuous forcible movements of the lower jaw had loosened them until they stood out between the lips. In the early part of April, 1908, patient contracted acute pulmonary tuberculosis and death occurred May 26, 1908.

*Autopsy*, 15 hours after death.

Protocol: Body of a female of medium height and slight frame. Emaciation extreme. Post-mortem rigidity present and lividity over dependent portions of the trunk. Large decubitus chronicus over sacrum. Eyes directed forward. Pupils, 4 millimeters in diameter; circular and equal. Facial features symmetrical. Extremities are of equal size on the two sides.

Head Section: The tables of the calvarium are thickened at the expense of the diploe. The dura is diffusely thickened and firmly attached to the overlying skull cap, but not to the pia-arachnoid. Brain weighs 1050 grams with membranes. Arachnoidal and perivascular spaces are dilated by straw colored fluid. Blood vessels over the brain surface are engorged with a dark colored blood. Over the tips of the frontal lobes some slight extravasation is present. The pia is diffusely thickened, this being particularly noticeable along the course of the blood vessels. On removing the pia-arachnoid from the underlying convolutions, the cortical surface presents a dull appearance instead of a normal, smooth, glistening one. The upper portions of the Rolandic areas, superior convolutions of the parietal lobes and tips of the frontal lobes have lost their normal plumpness. Some of these gyri are quite narrow and a trifle retracted; others are not so badly affected. The surface appearance of the remaining portion of the brain shows no marked departure from the normal. The cut surface after a vertical section of the brain, presents a thin cortex, some medullary shrinkage, dilated ventricles and numerous little red weeping points, the sites of the cut, engorged blood vessels.

Macroscopic appearance of the cerebellum, pons, medulla and spinal cord is negative.

The gross changes found in the other organs of the body were not sufficiently interesting to justify a detailed description here.

Sections for microscopic study were taken from the brain, cord, lungs, heart, aorta, liver, spleen, kidneys, suprarenal glands, cervix and ovaries. The stains used for the tissues were Nissl's, Marchi's, Weigert-Pal's, Van Gieson's and eosin-hæmatoxylin.

The microscopic findings of the general tissues were as follows: The left lung showed an acute tuberculous process involving all three lobes. The right lung was negative except for a small pneumonic area situated in the lower portion of the upper lobe. The muscle cells of the heart were shrunk and the nuclei appeared to be quite numerous on account of the cells being small and the connective tissue proliferated. The coronary arteries were thickened; this thickening being more evident in the intima and adventitia. The specimen of the aorta showed a marked diffuse proliferation of the endothelial cells. The liver showed considerable hyperplasia of the connective tissue, also numerous fat droplets in its parenchyma cells. The specimen taken from the spleen revealed a definite chronic interstitial and perisplenitis. The trabeculae were more numerous and larger than normal, and the splenic pulp diminished in quantity and contained numerous little collections of blood pigment. The kidneys showed no acute changes, but the fibrous tissue was markedly increased;



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some of the epithelial cells lining the tubules were granular and others had separated entirely from the basement membrane. Hyalin casts could be seen in the tubules. The arteries of the kidneys were thickened; this thickening being most marked in the intima. The suprarenal glands and ovaries were negative. The specimen of the cervix showed round cell infiltration and some hyperplasia.

Microscopic changes found in the nervous system:

On examining the cortex stained by eosin and hæmatoxylin with the two-thirds objective, the most striking features observed were the thinness of the cortex, the unusual thickness of the first layer, the dilated state of the perivascular spaces, the great number of small, round, intensely stained nuclei, and the apparent proliferation of the small blood vessels, including the capillaries. The entire vascular system of the cortex and subcortical layer was markedly engorged and in the latter some extravasation of the cellular elements of the blood could be seen. Looking around the margin of the specimen just beneath the pia and in a few instances extending down into the cortical tissue, numerous little spherical bodies, a trifle larger than a leucocyte, palely stained and without well-defined nuclei, could be seen with the low objective. The one-sixth objective revealed considerable cell proliferation in the walls of the capillaries and arteries, with definite minute hemorrhages in the subcortical layer. The spherical bodies previously mentioned were found to be myelin globules and the numerous small, deeply stained nuclei seen with the low objective were thought to be the nuclei of the proliferated glia cells.

The nerve cells of the cortex as well as those of the cord (Nissl's stain) showed chromatolysis, shrinkage, granular degeneration, and in some instances, complete disintegration. In the cortex the greatest damage done seemed to be in the third layer, motor area, but the same condition was present in the other layers of the cortex as well as the other areas of the brain, to a less extent. Fat droplets were found in those cells which were partially degenerated; also scattered around between the cellular elements little black bodies could be seen which had taken on the osmic acid stain. Specimens from the various portions of the spinal cord, stained by the Weigert-Pal method, showed a diffuse fiber degeneration; the anterior and lateral columns suffering most. The fiber destruction in the cord was not in any place sufficient to entirely destroy its functioning power. The posterior columns were found to be in practically a normal state, possibly on account of having their seat of origin outside of the cord.

The above clinical and laboratory notes have been presented in as brief a form as practicable, therefore deductions are unnecessary. However, attention is called to a few particularly interesting features of this special case, such as the great number of relatives affected, the violent choreic movements, and the rapid mental reduction; also the extreme atrophy of the entire brain and the decided proliferation of the glia tissue elements.

## BORDERLAND CASES OF INSANITY AND THE VOLUNTARY PATIENT.\*

By ALBERT WARREN FERRIS, A. M., M. D., NEW YORK,  
*President of the New York State Commission in Lunacy.*

Rarely does a physician experience as great satisfaction as that which attends the recovery of an insane patient. If skilfully adjusted occupation and diversion, special individual study and care, and personal suggestion result in the emergence of the patient, the medical attendant has received his highest recompense. Scarcely less valuable than his services are those of the physician who lifts to a higher plane the chronic case and makes the most for an irrecoverable patient of the remnant of life's enjoyment that is left him.

While relief from distress and cure of disease are generally considered by the thoughtless to be the whole duty of the physician, these do not in reality compass it; for prevention is the greater duty as it is the crowning achievement. Humanitarian, sanitarian, psychologist, and publicist the capable physician must be, and his arena is the world.

Over the entrance to the surgical amphitheatre of St. Come, Paris, are inscribed the words: "*Ad cedes hominum prisca amphitheatra patebant, ut discant longum vivere nostra patent.*" That is, "The amphitheatres of old were open for the slaughter of men, ours that they may learn to prolong life." Not only to prolong life does the modern Æsculapian enter the arena, not only to give successful battle to disease, but also to indicate undermining agencies, to avoid and remove causes of disease, and even to baffle heredity. This the psychiatrist of to-day accepts as his function and office.

We are led by habit of superficial thought, and by the subtle appeal of the artist to our emotional instincts, to accept the historic

\* Read at the sixty-fifth annual meeting of the American Medico-Psychological Association, Atlantic City, N. J., June 1-4, 1909.



statement that the picture of Pinel, striking off the shackles from the wrists and ankles of lunatics at Bicêtre, represents the earliest acceptance and practical result of the truth that penal repression of the insane is not necessary treatment, but is mere brutality. His moral intrepidity undoubtedly stimulated and encouraged the world, and paved the way for the conviction and action of Tuke, Hill, and Conolly in England, of Everts in Holland, and of Rush in the United States. But the fact is that in 1751, when Philippe Pinel was but six years old, the Pennsylvania Hospital in Philadelphia was founded largely because of the statement in the first clause of the petition for its charter. The petition, written by the hand of Benjamin Franklin, in its first paragraph

"Humbly sheweth

That with the Numbers of People, the number of Lunaticks or Persons Distemper'd in Mind and depriv'd of their natural Faculties, hath greatly increased in this Province."

The hospital was established in large part "for the care and treatment of Lunaticks," and thus early was the truth recognized that the insane are ill and deserve, as well as profit by, treatment. The petition sets forth in its third paragraph:

"That few or none of them are so sensible of their Condition as to submit voluntarily to the Treatment their respective Cases require, and therefore continue in the same deplorable State during their Lives."

Here is an ancient record of the conviction of the desirability of voluntary application and of the benefits of early treatment.

Statistics regarding the insane population in the State of New York confront us with two most grave and significant facts:

First. The total number of cases of insanity admitted during the last fiscal year was 6681, against an average of 5539 for five preceding years, thus furnishing us with a net increase of 1246, against an average net increase of 766, for the five preceding years.

Second. While the annual death rate in the State hospitals for the insane is 8 per cent of their population, 40 per cent of all the deaths occur during the first year after admission, and 15.6 per cent of the new cases die during their first year of residence in the hospitals.



The first fact necessitates immediate and energetic action to limit the production of insanity by instruction of the public throughout the whole State concerning the precipitating factors in the causation, emphasizing the avoidable causes, and uncovering to the youth and the adult the actual agencies that can be controlled, and the actual measures that can be taken to preserve mental integrity. Such action will consist in plain and forcible presentation of the subject of syphilis and its results; the subject of the use of alcoholic beverages in so-called "moderation," as well as in excess; and the subject of drugs, such as morphine, cocaine, and chloral.

The fact of our net increase of 61 per cent more than in previous years suggests not only the necessity for education of the people, but also the emphatic desirability of placing the insane under earlier treatment. But much more forcibly is this necessity stated in the fact of the early death of 15.6 per cent of our newly admitted. Many of these are suffering from infection-exhaustion psychoses, a few are aged or bedridden patients. Many have suffered so long that their psychoses are deeply fixed, and they are in a condition of dread, antagonism, confusion, or enfeeblement, which interferes with immediate examination, and constitutes a barrier to early access to the personality. If brought more promptly into reception wards they would, in many instances, never have progressed so far, and their recovery would have dated from an earlier period.

The early case, the borderland case, must be put under treatment. The question arises, What is a borderland case? Meyer, with characteristic practicality, answers: "Any case that can be benefited by hospital treatment;" that is, any case in which symptoms of commencing mental trouble have been noticed, and which should have a psychiatrist's care. Within the area of the borderland we must include psychasthenia, with its impulsions, obsessions, doubts, phobias, anguish, agitation, and delirium of touch; and for practical purposes we must also include all psychoses in their incipency; we must include psychopathic exaltation and psychopathic depression; constitutional inferiority; disorders in the train of thought, disorders of volition, of the emotions, of memory, of attention, and of personality, whenever such disorders are more than transient. It seems trivial to say it (yet this

truth must be impressed upon the thoughtless community by the physician) that, as soon as the teacher or the parent or other relative discovers such disorders and decides that they are more than transient, he should take alarm and seek medical advice for the patient. If, owing to congenital defect, mental development is retarded, the child should have the advice of a psychiatrist. If under the stress and strain of an exacting life an adult begins to "break down," immediate medical relief should be secured. The term "over-work" is relative to the constitutional equipment and to the mental and physical health of the individual. The toxic substances which are produced by activity, and which cause fatigue, are not, in some instances, easily eliminated. We know that rest does less for the recuperation of a fatigued muscle than irrigation with a stream of fresh blood. Given plenty of good blood and an opportunity to rest, but one agency in addition is requisite to restore fatigued muscles, and that is sleep. Insomnia, though a common symptom, is always a grave one in the psychasthenic.

To afford as far as possible opportunities for early relief of the borderland case, New York State, which had for many years authorized licensed private houses to receive voluntary patients, in 1908 amended the insanity law and threw open her 13 civil State hospitals for the reception, without commitment and on their own application, of patients whose minds are not so impaired as to render them incapable of forming a rational judgment or to render them incapable of resisting influence.

Since the change in the statute, comparatively few voluntary patients have taken advantage of the opportunity to enter the State hospitals, the small number being due, apparently, to want of information or apathy of the general practitioner; to the idea persistent among the laity that real insanity is always marked by violence; and to the feeling that possibly recoverable cases of mental disorder should be kept at home, the hospital being regarded by some citizens as merely a receptacle for the desperate or hopeless cases. Too much stress cannot be laid on the importance of instructing the general practitioner and the public to the effect that medical care of the insane should begin before the time when sufficient mental change has occurred to make a commitment possible.

Of the 71 cases received on voluntary application into the New York State hospitals between July 1, 1908, and April 1, 1909, 40 were men and 31 were women. Their ages ranged from 13 to 77, and but 6 were over 60 years of age. The following is the classification of the psychoses:

Manic-depressive insanity.....	15
Allied to manic-depressive.....	1
Dementia præcox .....	5
Allied to dementia præcox.....	1
Alcoholic psychosis .....	5
Acute alcoholic hallucinosis.....	1
General paresis .....	4
Involutional melancholia .....	3
Paranoic condition .....	3
Hysterical psychosis .....	3
Constitutional inferiority .....	3
Psychasthenia .....	3
Depression not sufficiently distinguished.....	3
Hypochondriacal depression .....	2
Anxiety psychosis .....	2
Symptomatic depression .....	1
Morphia psychosis .....	2
Arterio-sclerosis symptom-complex .....	2
Epileptic psychosis .....	1
Organic brain disease.....	1
Dementia paranoid .....	1
Infection-exhaustion psychosis .....	1
Unclassified, a syphilitic with confusion episodes and arm weakness.....	1
Not insane .....	7

Of these patients, 29 represented readmissions, including 12 cases of manic-depressive insanity, one case allied to manic-depressive, three cases of alcoholic psychosis, two cases each of paresis, paranoid condition, dementia præcox, psychasthenia, and hysterical psychosis, and one case each of acute alcoholic hallucinosis, constitutional inferiority, and depression not sufficiently distinguished.

The fact that 40 per cent of the patients were readmissions is an indication of growing confidence in the friendly offices of the State hospital.

The great desirability, for both individual and family, that cases of manic-depressive insanity should be placed under early

treatment leads us to experience especial satisfaction in the fact that 23 per cent of these voluntary patients were sufferers from this form of psychosis.

The services of the hospitals were of distinct value to the community in the instances of the 14 patients who cannot be cured. Of these, two were paranoic, one of whom was removed by friends in a few days, while the other was committed; four were general paretics, including two concerning whom the diagnosis is still *sub judice*, and one who was committed two months after admission, his family being thereby saved from disgrace and financial loss; and one who died in six weeks. The case of dementia paranoid left in five days, much improved by rest and catharsis; the case of organic brain disease is a hemiplegic, with incapacity and depression; the epileptic will probably improve so far as to be sent to the epileptic colony when a vacancy occurs; of the two cases of arterio-sclerosis symptom-complex, both over 60 years of age, one was discharged much improved after a trial; one of the three cases of constitutional inferiority is over 62 years old and not hopeful for future self-support, one was committed, and one reacted naturally during a week's observation and was discharged.

Analysis of the six alcoholic cases (less than 8.5 per cent of the total) should reassure the timid souls who loudly prophesied that the voluntary patients would necessarily consist largely of inebriates in search of a refuge in which to recover from a debauch. The victim of acute alcoholic hallucinosis was a readmitted case who suffered from a definite psychosis, and will be discharged in all probability in three months. Of the five cases of alcoholic psychosis, two were committed as insane under the statute, one was discharged in three days, one with a persecutory trend of ideas is improving much, and the remaining one shows a resemblance to Korsakoff's psychosis.

The seven who were found not insane and were promptly discharged comprised the following:

An alcoholic clergyman, who had mentioned suicide; a barber, who was depressed and nervous; a farmer's daughter of 13, who presented disorder in the content of thought, consisting of frequent panics caused by fear of choking and of impending death, and of which she was relieved by direct suggestion and



sensible advice; an alcoholic physician, who while in the hospital dishonorably procured liquor surreptitiously; a weak, excited, talkative farmer; an alcoholic and quarrelsome jeweler; and an emotional pupil nurse. Although, with the exception of the young girl, these were unsuitable for our State hospital treatment, the reception and discharge of these sane patients will be of value in reassuring the community, and in increasing confidence in the hospitals.

There is a very great economic value in the voluntary admission of the incipient case. The average life of the committed patient in a hospital is nine years. It is well known that very early treatment would shorten vastly the duration of the curable psychosis, and would rescue some patients from a nine years' residence. The State is saved from the average expenditure of from \$1288 to \$1472 for every possible nine years' patient who is discharged at the end of one or two years' treatment. Besides this outlay we must reckon the loss to the Commonwealth of the services of each citizen as producer or worker, roughly stated as \$200 a year or \$1800 in nine years. If recovery takes place in one or two years, \$1400 to \$1600 of the value of his life is saved to the patient described who recovers promptly. With early treatment and early recovery, therefore, the State would save on the average \$2688 to \$3072 on each such patient.

The effect of the presence of voluntary patients on nurses and attendants is excellent, for they must prove corrective in the case of nurses who are disposed to be summary, dictatorial or harsh, and they certainly are more intelligently helpful. The effect upon committed patients is valuable through the example set in activity in occupations, industries and games, and in general encouragement.

The undoubted prophylactic value of voluntary admissions is suggested by the case of one woman who was advised to apply by a sister who had recovered from insanity in a State hospital. Willingness to go to a State hospital certainly includes willingness to receive from the hospital physicians rules and directions for home life which may improve environment and remove precipitating factors of insanity.

The experimental period for New York State has ended, and the trial of voluntary admissions is abundantly successful and full of promise.



## Proceedings of Societies.

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### AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.

#### PROCEEDINGS OF THE SIXTY-FIFTH ANNUAL MEETING.

ATLANTIC CITY, N. J., TUESDAY, JUNE 1, 1909.—FIRST SESSION.

The Association convened at 10 a. m., in the Convention Hall of the Marlborough-Blenheim, Atlantic City, N. J., and was called to order by the President, Dr. Arthur F. Kilbourne, Rochester, Minnesota.

**THE PRESIDENT.**—*Ladies and Gentlemen, members of the American Medico-Psychological Association:* I have the honor to call to order the Sixty-Fifth Annual Meeting of this Association, and I have the pleasure of introducing the Hon. Franklin P. Stoy, Mayor of Atlantic City, who will deliver the address of welcome, on behalf of this city. (Applause.)

**MAYOR STOY.**—*Mr. Chairman, Ladies and Gentlemen, members of the Association:* My mission this morning is a brief one. I assure you that I have not come here to discuss medicine or to do things otherwise to prolong my talk with you. I am here this morning to offer you a hearty welcome to our city on this most pleasant day. You represent in your organization not only our own country, but our sister country, and I offer you a hearty welcome to our city and extend to you the freedom thereof.

We have frequent gatherings here of learned societies, and I assure you it is a great pleasure for me at this time to say a welcome to you on behalf of our people. There is no doubt that you are here not only for mutual benefit, but you are here to spend with us a week of recreation.

We hope, therefore, that your stay here will be one of pleasure, one of contentment.

Now, Mr. President, that is about all that I can say in extending a welcome to you, but I trust that I shall have the pleasure of meeting individually many of your members before they leave our city, and I hope that I, at least, shall not be called upon to have any of your services rendered to me. I also hope during the time you are here that you will not want the services of any other fellow doctor. I thank you for your kind attention. (Applause.)

THE PRESIDENT.—We are honored this morning by the presence of one of New Jersey's native sons, and it is with the greatest pleasure that I introduce Hon. Joseph S. Frelinghuysen, President of the Senate of New Jersey, and I believe the next Governor. (Applause.)

SENATOR FRELINGHUYSEN.—*Mr. Chairman, members of the American Medico-Psychological Association, Ladies and Gentlemen:* I can pronounce that word "psychological" much better than I can spell it. It reminds me of the story of the old sailor who saw a boat on the coast named "Psyche," and said it was the darndest way to spell fish he ever saw. (Laughter.) I am also reminded of the story of the English learned physician who was lecturing to his class, and had that day received an appointment from the crown. After he had finished he wrote at the bottom of the blackboard: "I have this day been appointed physician to her majesty, the Queen of England." Some jocular student during the night wrote at the bottom, "God save the Queen." (Laughter.)

In the absence of Governor Fort, who cannot be present to-day, it becomes my pleasant duty to welcome you on behalf of the State of New Jersey. The hearty greeting extended by his honor, Mayor Stoy, the most cordial welcome, the usual hospitality and good will of Atlantic City which he has proffered you, leave very little for me to say. Dr. Evans has informed me of the purposes of your Association, and I may, therefore, say to you, who are the thinkers of the age upon this subject, that we consider your conclusions of vast importance to the State of New Jersey. New Jersey is deeply interested in your conferences, and we await with much interest the result of these deliberations which make for wider and better knowledge and treatment of diseases of the human mind.

In this State we want to take a progressive stand and each year improve and maintain the highest standards in all institutions. Our experts tell us we are putting in practice the newest methods of alleviating suffering in mental diseases which tend to the elimination so far as possible of insanity. We have, therefore, a large appreciation of the work of the American Medico-Psychological Association and its value for the world at large. The surgeon performing a great operation, or the doctor restoring to health some prominent citizen, is heralded far and wide for his skill, and justly so. They receive much public praise and great monetary reward, but many of you must do your work obscurely and alone to a great extent unheralded and unsung. You are serving the nation, however, in a much nobler way, and we who are called upon to pass upon the problems involved know it, appreciate it, and praise you for it.

I am glad to know that the members of our institutions in New Jersey are identified with this Association. New Jersey is no longer a small State in population, and as our responsibility increases with the greater number of dependents, we want those upon whom this responsibility falls to help advance the knowledge of improved methods.



In the next four days you will exchange opinions, indulge in research and study improved plans for treating these diseases. May the result of this conference be greatly increased knowledge that should redound not only to the good of the State of New Jersey, but the whole civilized world.

I have, therefore, crossed the State to-day to meet you and greet you and give you these few words of encouragement. I am not a scientist, I am simply a legislative agent, and in behalf of the State I want to assure you that we will stand shoulder to shoulder for the enactment of such reforms as will make for the amelioration of human suffering which is the greatest work for God and country. (Applause.)

In conclusion I have just this to say, that we hope that not only those from other States, but those from our sister countries, who have honored us with their presence, will have a pleasant sojourn in our midst, and enjoy the refreshing breezes of the ocean front and return to your homes with good impressions of New Jersey. (Applause.)

THE PRESIDENT.—It is a matter of regret that the gentlemen who have just addressed us could not wait to receive some acknowledgment of their remarks. However, we appreciate their kind and courteous welcome.

DR. MACDONALD.—I move that a vote of thanks of the Association be extended to both of the distinguished gentlemen who have just addressed us.

This motion was duly seconded and carried by rising vote.

THE PRESIDENT.—At the request of the Chairman of the Committee of Arrangements the report of that Committee will be postponed. The Secretary will now read the report of the Council.

REPORT OF THE COUNCIL TO THE AMERICAN MEDICO-PSYCHOLOGICAL  
ASSOCIATION.

ATLANTIC CITY, June 1, 1909.

The Council met on the evening of May 31, 1909, in the Council Room of the Marlborough-Blenheim, Atlantic City, N. J.

The Council has received and transmits herewith the report of the Treasurer for the current year.

We also transmit herewith a statement of the membership of the Association to date.

The Council recommends for election to active membership the following named physicians:

Louis B. Baldwin, M. D., Jamestown, N. Dak.; Brooks F. Beebe, M. D., Cincinnati, Ohio; Walter Murray English, M. D., Hamilton, Ontario, Can.; Albert Warren Ferris, M. D., New York, N. Y.; L. M. Jones, M. D., Mil-

ledgeville, Ga.; George R. Love, M. D., Toledo, Ohio; D. J. McCarthy, M. D., Philadelphia, Pa.; J. Moorehead Murdock, M. D., Polk, Pa.; W. J. Robinson, M. D., London, Ontario, Can.; Max G. Schlapp, M. D., New York, N. Y.; C. Howard Searle, M. D., Palmyra, Wis.; Elmer E. Stone, M. D., Napa, Cal.; L. L. Uhls, M. D., Osawatomie, Kan.; Henry S. Upson, M. D., Cleveland, Ohio; William Rushmore White, M. D., Ellicott City, Md.; J. M. Scanland, M. D., Warm Springs, Mont.

The Council recommends the transfer of the following named associate members to the active class:

Dana F. Downing, M. D., West Newton, Mass.; Thomas P. Prout, M. D., Summit, N. J.

The Council recommends that the following named physicians be elected to associate membership:

Earl D. Bond, M. D., Waverley, Mass.; Arthur J. Capron, M. D., Kings Park, N. Y.; Alexander J. Carroll, M. D., Morris Plains, N. J.; William J. Cavanaugh, M. D., Poughkeepsie, N. Y.; G. Kirby Collier, M. D., Sonyea, N. Y.; Blanche Dennes, M. D., Poughkeepsie, N. Y.; Edward Gillespie, M. D., Binghamton, N. Y.; Edward C. Greene, M. D., Pontiac, Mich.; Charles Gibson McGaffin, M. D., Taunton, Mass.; Mortimer W. Raynor, M. D., Poughkeepsie, N. Y.; A. J. Rosanoff, M. D., Kings Park, N. Y.; Edward B. Shellenberger, M. D., Warren, Pa.; Farrest C. Tyson, M. D., Bangor, Me.

The changes in the membership of the American Medico-Psychological Association during the past year are as follows:

#### HONORARY MEMBERS.

Former number .....	24
Admitted .....	1
Died .....	1
Net gain .....	— 0
Present number .....	24

#### ACTIVE MEMBERS.

Former number .....	300
Associate to active.....	4
Admitted .....	17
	—21
Resigned .....	7
Died .....	5
	—12
Net gain .....	— 9
Present number .....	309

## ASSOCIATE MEMBERS.

Former number .....	125
Admitted .....	12
	—12
Associate to active.....	4
Resigned .....	5
Died .....	1
	—10
Net gain .....	— 2
	—
Present number .....	127
	—
Total membership June 1, 1909.....	460

The Council transmits herewith a letter from Dr. W. H. Carmalt, Secretary of the Congress of American Physicians and Surgeons.

Respectfully submitted,

CHARLES W. PILGRIM, *Secretary.*

## CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

SECRETARY'S OFFICE, 87 ELM ST., NEW HAVEN, May 20, 1909.

*Dr. Charles W. Pilgrim, Secretary of American Medico-Psychological Association.*

MY DEAR DOCTOR.—The program for the Congress of 1910, so far as it affects the Component Associations, has been arranged as follows, viz.:

First. The Congress will be held on May 3 and 4, 1910.

Second. There will be a general session of the Congress on the afternoon of Tuesday, May 3, from 2.30 to 5 o'clock, during which time no sessions of the Component Associations will be held.

Third. The subject of "Artificial Immunization" will be considered at that time, the speakers being, as usual, selected by the committee on the program.

Fourth. *The Component Associations are requested to consider at their several meetings on Wednesday afternoon, May 4, the second day of the Congress, the cognate subject of "Vaccine Therapy," each from its own point of view, by writers selected by the Association itself, the papers to be published as a part of the Transactions of the Congress.* It is understood that if two (or more) Associations wish to unite in a discussion, they are at liberty to do so. You will, therefore, kindly bring this to the notice of your Association at its next meeting, or otherwise, according as your Association is constituted, and have the writers appointed as mentioned, notifying me as soon as possible in order that I may get out the preliminary program of the Congress without delay.

I am very truly yours,

W. H. CARMALT.

On motion, which was duly seconded, the report of the Council was accepted and adopted. The names of physicians proposed for election to come up to-morrow in regular course.

THE PRESIDENT.—We will now hear the report of the Treasurer.

TREASURER'S REPORT, 1908-1909.

DEBITS.

Balance on hand.....	\$1,920.41
Dues from active members.....	1,807.45
Dues from associate members.....	275.00
Interest on bank deposits.....	64.14
Blackburn autopsies .....	1.00
Gummed lists of members.....	15.50
	<hr/>
	\$4,083.50

CREDITS.

Printing and publishing transactions 1907.....	\$629.54
Distributing transactions .....	66.00
Printing and distributing lists of members.....	32.20
Additional reprints .....	\$61.87
Expressage on same.....	14.36
	<hr/>
	76.23
Stenographer's services (Cincinnati).....	58.00
Stenographer's expenses (Cincinnati).....	69.84
Clerical services (June, 1907, to May, 1909).....	120.00
Rubber stamps .....	1.35
Exchange on foreign checks (N. Y. Prod. Bank)....	.30
Appropriation, AMERICAN JOURNAL OF INSANITY.....	150.00
Envelopes and letter heads.....	36.99
Registration cards .....	4.50
Circular letters .....	5.50
Applications for membership.....	6.75
Expressage on printing.....	2.40
Programs (1908) .....	13.75
Preliminary programs (1909).....	3.50
Expenses of J. R. Heilman to N. Y. City to confer with L. M. Farrington.....	2.32
Postage .....	76.20
Balance in Poughkeepsie Trust Company.....	1,207.15
Balance in Emigrant Industrial Savings Bank.....	1,520.98
	<hr/>
	\$4,083.50

Respectfully submitted,

CHAS. W. PILGRIM,  
Treasurer.



On motion the report of the Treasurer was referred to the Auditing Committee.

THE PRESIDENT.—I will now call for the report of the editors of the AMERICAN JOURNAL OF INSANITY.

*Mr. President and the members of the American Medico-Psychological Association:* There is little to say concerning the JOURNAL OF INSANITY that the majority of you do not know. The volume for the year has embraced a large number of valuable contributions to psychiatry upon a wide range of subjects. The complete volume comprises over eight hundred pages, and on account of an unusual number of illustrations, tables, charts, etc., the cost of printing has been in excess of the amount paid for the previous volume, but the income from subscriptions has been over three hundred dollars more, and from advertisements sixty dollars more.

The editors feel that it is again necessary to call the attention of the contributors of papers to our annual sessions to the rule that papers read at the meetings are the property of the Association and cannot be published elsewhere than in the JOURNAL and volume of transactions, except upon permission of the Council.

Obviously the editors cannot see all the papers published in all the journals in the country and when a manuscript is received from the author or the Secretary of the Association the editors should be in a position to feel that it has not already appeared in print.

It has been deemed best to postpone for further consideration the publication of the JOURNAL bi-monthly, and for many reasons it has been found impossible at present to send the JOURNAL to each member of the Association gratis.

If every member of the Association would place his name on the subscription list, and every responsible head of an institution the name of the institution, it will be possible to send the members of the Association the JOURNAL at a reduced price without additional cost to the treasury of the Association.

Respectfully submitted,

EDWARD N. BRUSH.

On motion the report was accepted and the vouchers referred to the Auditing Committee.

THE PRESIDENT.—I will now announce the Nominating Committee, which will consist of the following named members:

Dr. T. J. W. Burgess, Montreal, Quebec, Chairman; Dr. Joseph Clement Clark, Maryland; Dr. Wm. Mabon, New York.

I now declare a recess of fifteen minutes for the purpose of registration. Each member and visitor is earnestly requested to fill out one of the cards on the Secretary's table.

The following members registered and were in attendance during the whole or a part of the meeting:

Abbott, E. Stanley, M. D., Assistant-Physician, McLean Hospital, Waverley, Mass.

Adams, George S., M. D., Superintendent, Westboro Insane Hospital, Westboro, Mass.

Allen, Henry D., M. D., Superintendent, Allen's Invalid Home, Milledgeville, Ga.

Ashley, Maurice C., M. D., Superintendent, Middletown State Homeopathic Hospital, Middletown, N. Y.

Atkins, H. S., M. D., Superintendent, City Insane Asylum, St. Louis, Mo.

Babcock, J. W., M. D., Physician and Superintendent, State Hospital for the Insane, Columbia, S. C.

Ballantine, Eveline P., M. D., Woman Physician, Rochester State Hospital, Rochester, N. Y.

Barrett, Albert M., M. D., Director State Psychopathic Hospital at the University of Michigan, Ann Arbor, Mich.

Beutler, W. F., M. D., Superintendent, Asylum for Chronic Insane, Wauwatosa, Wis.

Biddle, Thomas C., M. D., Superintendent, Topeka State Hospital, Topeka, Kan.

Blumer, G. Alder, M. D., Medical Superintendent, Butler Hospital, Providence, R. I.

Bond, George F. M., M. D., Owner and Physician-in-Charge, Dr. Bond's House, 960 North Broadway, Yonkers, N. Y.

Bradley, Isabel A., M. D., Assistant-Physician, Friends' Asylum for the Insane, Frankford, Philadelphia, Pa.

Brunk, Oliver C., M. D., Superintendent, Eastern State Hospital, Williamsburg, Va.

Brush, Edward N., M. D., Physician-in-Chief and Superintendent, Shepard and Enoch Pratt Hospital, Towson (Station A, Baltimore), Md.

Burgess, T. J. W., M. D., Medical Superintendent, Protestant Hospital for the Insane, Box 2562, Montreal, Quebec.

Burr, C. B., M. D., Medical Director, "Oak Grove," Flint, Mich.

Calder, Daniel H., M. D., Superintendent, State Mental Hospital, Provo, Utah.

Carriel, H. B., M. D., Superintendent, Central Hospital for the Insane, Jacksonville, Ill.

Chapin, John B., M. D., Physician and Superintendent, Pennsylvania Hospital for the Insane, Philadelphia, Pa.

Chase, Robert H., M. D., Superintendent, Friends' Asylum for the Insane, Frankford, Philadelphia, Pa.

Clark, Charles H., M. D., Superintendent, Cleveland State Hospital, Cleveland, Ohio.

Clark, J. Clement, M. D., Superintendent, Springfield State Hospital, Sykesville, Md.

Coleburn, A. B., M. D., Assistant-Physician, Connecticut State Hospital for the Insane, Middletown, Conn.

Cornell, William Burgess, M. D., Assistant-Physician, Sheppard and Enoch Pratt Hospital, Towson, Md.

Copp, Owen, M. D., Secretary and Executive Officer, State Board of Insanity, Room 36, State House, Boston, Mass.

Crumbacker, W. P., M. D., Superintendent, Independence State Hospital, Independence, Iowa.

De Weese, Cornelius, M. D., Medical Director, The Laurel Sanitarium, Laurel, Md.

Dewey, Richard, M. D., Physician-in-Charge, Milwaukee Sanitarium, Wauwatosa, Wis.

Dewing, Oliver M., M. D., Medical Superintendent, Long Island State Hospital, Brooklyn, N. Y.

Dill, D. M., M. D., Superintendent, Essex County Hospital for the Insane, 425 South Orange Avenue, Newark, N. J.

Dold, William Elliott, M. D., Physician-in-Charge, River Crest Sanitarium, Astoria, L. I., New York City.

Drewry, William F., M. D., Medical Superintendent, Central State Hospital, Petersburg, Va.

Dunton, Wm. Rush, Jr., M. D., Assistant-Physician, Sheppard and Enoch Pratt Hospital, Towson, Md.

Elliott, Robert M., M. D., Medical Superintendent, Willard State Hospital, Willard, N. Y.

English, W. M., M. D., Superintendent, Hospital for Insane, Hamilton, Ontario.

Evans, Britton D., M. D., Medical Director, The New Jersey State Hospital at Morris Plains, Greystone Park, N. J.

Eyman, Henry C., M. D., Superintendent, Massillon State Hospital, Massillon, Ohio.

Ferris, Albert Warren, M. D., President, New York State Commission in Lunacy, Albany, N. Y.

Fisher, E. Moore, M. D., Assistant-Physician, New Jersey State Hospital, at Morris Plains, Greystone Park, N. J.

Franz, Shepard I., A. B., Ph. D., Psychologist, Government Hospital for the Insane, Washington, D. C.

French, Edward, M. D., Superintendent, Medfield Insane Asylum, Hard-  
ing, Mass.

Frost, Henry P., M. D., First Assistant-Physician, Buffalo State Hospital, Buffalo, N. Y.

Garrett, R. Edward, M. D., Assistant-Physician, Maryland Hospital for the Insane, Catonsville, Md.

Givens, Amos J., M. D., Superintendent, Stamford Hall, Stamford, Conn.

Goodwill, V. L., M. D., Medical Superintendent, Prince Edward's Island Hospital for the Insane, Charlottetown, P. E. I., Canada.

Gundry, Alfred T., M. D., Resident Physician, Gundry Sanitarium, Athol, Catonsville, Md.

Gundry, Lewis H., M. D., Superintendent, Relay Sanitarium, Relay, Baltimore County, Md.

Gundry, Richard F., M. D., Physician-in-Charge, The Richard Gundry Home, Catonsville, Md.

Guth, Morris S., M. D., Superintendent, State Hospital for the Insane, Warren, Pa.

Hamilton, Samuel W., M. D., Second Assistant-Physician, Utica State Hospital, Utica, N. Y.

Hancker, William H., M. D., Superintendent, Delaware State Hospital, Farnhurst, Del.

Harmon, F. W., M. D., Superintendent, Longview Hospital, Cincinnati, Ohio.

Hattie, W. H., M. D., Medical Superintendent, Nova Scotia Hospital, Halifax, N. S.

Hawke, W. W., M. D., Chief Resident Physician, Philadelphia Hospital for the Insane, Philadelphia, Pa.

Hill, Charles G., M. D., Physician-in-Chief, Mt. Hope Retreat, Baltimore, Md.

Houston, John A., M. D., Superintendent, Northampton State Hospital, Northampton, Mass.

Howard, Eugene H., M. D., Medical Superintendent, Rochester State Hospital, Rochester, N. Y.

Howard, Herbert B., M. D., formerly Superintendent, Massachusetts General Hospital, Boston, Reading, Mass.

Hurd, Arthur W., M. D., Superintendent Buffalo State Hospital, Buffalo, N. Y.

Hurd, Henry M., M. D., Superintendent of the Johns Hopkins Hospital and member State Commission in Lunacy, Baltimore, Md.

Hutchings, Richard H., M. D., Superintendent, St. Lawrence State Hospital, Ogdensburg, N. Y.

Hutchinson, Anna E., M. D., Woman Physician, Manhattan State Hospital, Ward's Island, New York, N. Y.

Kilbourne, Arthur F., M. D., Superintendent, Rochester State Hospital, Rochester, Minn.

Kindred, J. Joseph, M. D., President and Consulting Physician, River Crest Sanitarium, Astoria, L. I., New York City.

King, George W., M. D., Medical Director, Hudson County Hospital for the Insane, Secaucus, Jersey City, N. J.

Lamb, Robert B., M. D., Medical Superintendent, Matteawan State Hospital, Fishkill-on-the-Hudson, N. Y.

Langdon, F. W., M. D., Medical Director, The Cincinnati Sanitarium, 5 Garfield Place, Cincinnati, Ohio.

Laughlin, Charles E., M. D., Medical Superintendent, Southern Indiana Hospital for the Insane, Evansville, Ind.

Long, Oscar R., M. D., Medical Superintendent, State Asylum, Ionia, Mich.

Lyons, A. J., M. D., Superintendent, Second Hospital for the Insane, Spencer, W. Va.

McAllaster, Benjamin R., M. D., Assistant-Physician, Cherokee State Hospital, Cherokee, Iowa.

MacDonald, Carlos F., M. D., Physician-in-Charge, Dr. MacDonald's House, Central Valley, N. Y.

McGaffin, Charles G., M. D., Assistant-Physician, Taunton Insane Hospital, Taunton, Mass.

McKelway, John Irvine, M. D., Assistant-Physician, Binghamton State Hospital, Binghamton, N. Y.

Mabon, William, M. D., Superintendent and Medical Director, Manhattan State Hospital, Ward's Island, New York, N. Y.

Meredith, H. B., M. D., Superintendent, State Hospital for the Insane, Danville, Pa.

Mills, Charles K., M. D., Professor of Neurology, University of Pennsylvania, 1909 Chestnut Street, Philadelphia, Pa.

Mitchell, H. W., M. D., Medical Superintendent, Eastern Maine Insane Hospital, Bangor, Me.

Mitchell, T. J., M. D., Superintendent, State Insane Hospital, Asylum, Miss.

Moher, Thomas J., M. D., Medical Superintendent, Hospital for Insane, Brockville, Ontario.

Mosher, J. Montgomery, M. D., Attending Specialist in Mental Diseases, Albany Hospital, 170 Washington Avenue, Albany, N. Y.

Moulton, A. R., M. D., Senior Assistant-Physician, Pennsylvania Hospital for the Insane, Philadelphia, Pa.

Munson, J. F., M. D., Resident Pathologist, Craig Colony for Epileptics, Sonyea, N. Y.

Noble, Henry S., M. D., Superintendent, Connecticut Hospital for the Insane, Middletown, Conn.

O'Hanlon, George, M. D., First Assistant-Physician, Kings Park State Hospital, Kings Park, L. I., N. Y.

O'Malley, Mary, M. D., Assistant-Physician, Government Hospital for the Insane, Washington, D. C.

Orth, H. L., M. D., Superintendent and Physician, State Lunatic Hospital, Pouch A, Harrisburg, Pa.

Packard, Frederic H., M. D., Assistant-Physician and Pathologist, McLean Hospital, Waverley, Mass.

Packer, Flavius, M. D., Physician-in-Charge, The Knolls, West Hill, Riverdale, New York City.

Parsons, Frederick W., M. D., Second Assistant-Physician, Hudson River State Hospital, Poughkeepsie, N. Y.



Palmer, H. L., M. D., Superintendent, Utica State Hospital, Utica, N. Y.  
Perry, Middleton Lee, M. D., Superintendent, State Hospital for Epileptics, Parsons, Kan.

Pilgrim, Charles W., M. D., Medical Superintendent, Hudson River State Hospital, Poughkeepsie, N. Y.

Pritchard, William H., M. D., Superintendent, Ohio Hospital for Epileptics, Gallipolis, Ohio.

Richardson, W. W., M. D., Resident Physician, State Hospital for Insane, Norristown, Pa.

Ricksher, Charles, M. D., Assistant-Physician, Danvers Insane Hospital, Hathorne, Mass.

Robins, Wm. L., M. D., Consultant in Nervous and Mental Diseases, Freedman's Hospital, Washington, D. C.

Russell, William L., M. D., Medical Inspector State Commission in Lunacy, Poughkeepsie, N. Y.

Sanborn, Bigelow T., M. D., Superintendent, Maine Insane Hospital, Augusta, Me.

Sandy, William C., M. D., Third Assistant-Physician, New Jersey State Hospital, Trenton, N. J.

Scribner, E. V., M. D., Medical Superintendent, Worcester Insane Asylum, Worcester, Mass.

Shanahan, William T., M. D., Acting Superintendent, Craig Colony for Epileptics, Sonyea, N. Y.

Shepherd, A. F., M. D., Superintendent, Dayton State Hospital, Dayton, Ohio.

Smith, George A., M. D., Superintendent, Central Islip State Hospital, Central Islip, L. I., N. Y.

Smith, Samuel E., M. D., Medical Superintendent, Eastern Indiana Hospital for the Insane, Easthaven, Richmond, Ind.

Somers, Elbert M., M. D., First Assistant-Physician, St. Lawrence State Hospital, Ogdensburg, N. Y.

Southard, Elmer E., M. D., Pathologist to State Board of Insanity, 37 Trowbridge Street, Cambridge, Mass.

Stanley, Charles E., M. D., Assistant-Physician, State Hospital for Insane, Middletown, Conn.

Stedman, Henry R., M. D., Superintendent "Bournewood" Hospital for Mental Diseases, Brookline, Mass.

Stockton, George, M. D., Superintendent, Columbus State Hospital, Columbus, Ohio.

Swift, Henry M., M. D., Senior Assistant-Physician, Danvers Insane Hospital, Hathorne, Mass.

Thompson, W. N., M. D., Superintendent and Physician, Hartford Retreat, Hartford, Conn.

Tomlinson, H. A., M. D., Superintendent St. Peter State Hospital, St. Peter, Minn.

Townsend, Theo. I., M. D., Assistant-Physician, Bloomingdale Hospital, White Plains, N. Y.

Uhls, L. L., M. D., Superintendent, Osawatomic State Hospital, Osawatomic, Kan.

Wagner, Charles G., M. D., Superintendent, Binghamton State Hospital, Binghamton, N. Y.

White, Moses J., M. D., Medical Superintendent, Milwaukee Hospital for Insane, Wauwatosa, Wis.

White, William A., M. D., Superintendent, Government Hospital for the Insane, Washington, D. C.

Wolfe, Mary M., M. D., Resident Physician, Women's Department Norristown State Hospital, Norristown, Pa.

Work, Hubert, M. D., Superintendent, Woodcroft Hospital, Pueblo, Colo.

The following visitors and guests of the Association registered their names with the Secretary:

Agnew, Anna M., M. D., Woman Physician, Long Island State Hospital, Brooklyn, N. Y.

Beutler, Mrs. W. F., Wauwatosa, Wis.

Blair, E. Scott, M. D., Superintendent, Southern California State Hospital, Patton, Cal.

Bond, Mrs. George F. M., 960 North Broadway, Yonkers, N. Y.

Campbell, C. Macfie, M. B., Associate in Clinical Psychiatry, Psychiatric Institute of the New York State Hospitals, Ward's Island, New York, N. Y.

Cook, Robert G., M. D., Physician-in-Charge, Brigham Hall, Canandaigua, N. Y.

Craig, Anna, M. D., Woman Physician, Kings Park State Hospital, Kings Park, L. I., N. Y.

Crumbacker, Mrs. W. P., Independence, Iowa.

Drewry, Mrs. W. F., Petersburg, Va.

English, Mrs. Eleanor M. Clark, Hamilton, Ontario.

Frost, Miss Anna L., Buffalo, N. Y.

Garvin, William C., M. D., Assistant-Physician, Manhattan State Hospital, Ward's Island, New York, N. Y.

Guth, Mrs. Morris H., Warren, Pa.

Hattie, Mrs. W. H., Halifax, Nova Scotia.

Holmes, Howard F., M. D., Assistant Physician, State Hospital, Tewksbury, Mass.

Hopkinson, S. W., Trustee, Danvers Insane Hospital, Bradford, Mass.

Kilbourne, Mrs. Arthur F., Rochester, Minn.

Kilbourne, Miss Katharine, Rochester, Minn.

Kindred, Mrs. J. Joseph, Astoria, New York, N. Y.

Kirby, George H., M. D., Director of Clinical Psychiatry, Manhattan State Hospital, Ward's Island, New York, N. Y.

McKelway, Mrs. John Irvine, Binghamton, N. Y.

May, James V., M. D., Assistant-Physician, Binghamton State Hospital, Binghamton, N. Y.

Moher, Mrs. Thomas J., Brockville, Ontario.

Moore, J. W., M. D., Assistant-Physician, Central Islip State Hospital, Central Islip, L. I., N. Y.

Palmer, Mrs. Nellie B., Trustee Medfield Insane Asylum, South Framingham, Mass.

Pollock, Henry M., M. D., Superintendent, State Hospital for the Insane, Norwich, Conn.

Rosanoff, A. J., M. D., Second Assistant-Physician, Kings Park State Hospital, Kings Park, L. I., N. Y.

Rusk, Glanville Y., M. D., Pathologist, Manhattan State Hospital, Ward's Island, New York, N. Y.

Scott, Col. Albert, President, Kentucky State Board of Control for Charitable Institutions, 432 North 26th Street, Louisville, Ky.

Scribner, Mrs. E. V., Worcester, Mass.

Shillite, G. M., Surgeon, Carnegie Hospital, Pittsburg, Pa.

Skinner, William W., M. D., Consulting Surgeon Willard State Hospital, 447 Main Street, Geneva, N. Y.

Skinner, Mrs. William W., Geneva, N. Y.

Smith, Mrs. G. A., Central Islip, L. I., N. Y.

Somers, Mrs. E. M., Ogdensburg, N. Y.

Terflinger, Fred W., M. D., Medical Superintendent, Northern Indiana Hospital for the Insane, Longcliff, Logansport, Indiana.

Wallace, H. R., M. D., 1101 Masonic Temple, Chicago, Ill.

Wells, A. J. G., Member Kentucky State Board of Control for Charitable Institutions, Murray, Ky.

Williams, H. L., Trustee Northampton State Hospital, Northampton, Mass.

Williams, Mrs. H. L., Northampton, Mass.

Willis, R. L., M. D., Superintendent, Eastern Kentucky Lunatic Asylum, Lexington, Ky.

Woodbury, Frank, M. D., Secretary, Committee on Lunacy of Pennsylvania, 1225 Sansom Street, Philadelphia, Pa.

THE PRESIDENT.—The Association will come to order. We will listen to the memorial notices of members who have died during the year.

The following memorial notices were read:

Dr. D. R. Brower, by Sanger Brown, M. D. (by title); Dr. John P. Brown, by A. V. Goss, M. D. (by title); Dr. H. E. Buchan, by C. K. Clarke, M. D. (by title); Dr. Walter R. Gillette, by William Mabon, M. D.; Dr. C. E. Hickey, by Edward Ryan, M. D. (by title); Dr. Henry A. Tobey, by H. C. Eyman, M. D.

THE PRESIDENT.—It has been intimated in certain quarters that innovations will not be out of place. I propose to institute one myself with regard to the afternoon session. A year ago I accepted this office with considerable trepidation on account of impaired physical health, and I wrote the Secretary some time ago that I would not present an address. I pray your indulgence in this respect, for I have simply been unable to bring myself to the task of writing anything. The afternoon session will, therefore, begin with the first paper on the program, which is "Borderland Cases of Insanity and the Voluntary Patient," by Dr. Ferris.

A recess was then taken until 2.30 p. m.

#### AFTERNOON SESSION.

THE PRESIDENT.—We will now take up the reading of papers.

The following papers were read:

"Borderland Cases of Insanity and the Voluntary Patient," by Albert Warren Ferris, M. D., New York City. Discussed by Drs. Mabon, H. M. Hurd, Copp, Burr, Brush, Pilgrim, Howard, MacDonald, Dewey, G. S. Adams, Kilbourne and Dr. Ferris in closing.

"A Note on the Treatment of Acute Insanity," by Sanger Brown, M. D., Chicago, Ill. Discussed by Drs. Hutchings, Sabor, Burr, Packard, Brush, Abbot, Dewey and Dr. Brown in closing.

"Psychopathia Conjugalis," by Clarence B. Farrar, M. D., Baltimore, Md. (By title.)

"A Review of the Recent Studies of General Paresis," by James V. May, M. D., Binghamton, N. Y. Discussed by Drs. Rosanoff, Hill, H. M. Hurd, Hawke and Dr. May in closing.

THE PRESIDENT.—I will now call upon the Chairman of the Committee of Arrangements for the deferred report of that Committee.

DR. EVANS.—I am more than appreciative of your indulgence in waiting for this report. My bag, containing this report, went astray and has just come to hand.

#### REPORT OF THE COMMITTEE OF ARRANGEMENTS.

*Mr. President:* A substantial report of your Committee of Arrangements is set forth in the general program and needs but little formal elaboration.

The selection of the Marlborough-Blenheim Hotel was made after a careful inquiry into the accommodations of the various hotels of Atlantic City.



The matter of special rates was taken up with the Trunk Line Association and so little was offered in the way of rates and so many complications associated with the small reduction, that your Committee deemed it unwise to attempt to make any arrangement for reduced rates. The American Medical Association had been given concessions which would have been acceptable to your Committee, but the Trunk Line Association declined to make such terms for our Association.

The program sets forth the speakers who are to deliver the addresses of welcome: the Honorable Joseph S. Frelinghuysen, President of the Senate of the State of New Jersey, and the Honorable Franklin P. Stoy, Mayor of Atlantic City. We were fortunate enough to have Professor J. Woodbridge Riley consent to favor us with the annual address.

A number of the hotels offered more moderate rates than the Marlborough-Blenheim, but your Committee of Arrangements thought it better to accept the terms and conditions offered by the Marlborough-Blenheim Hotel. A large number of hotels offered special rates to the members of this Association, and prominently among them the Hotel Rudolf.

The matter of an annual banquet was taken up and after a conference it was decided that it was not within the province of the Committee of Arrangements to determine its advisability, but rather a matter for the Association to determine at its regular session.

Atlantic City is so well provided with places of recreation and amusement that it was deemed wise not to make out any schedule of entertainment for members of the Association or their families and guests.

Very respectfully submitted,

B. D. EVANS,

*Chairman, Committee of Arrangements.*

On motion the report was accepted and adopted.

THE PRESIDENT.—I would state that immediately after the adjournment of this session, the Editorial Committee of the AMERICAN JOURNAL OF INSANITY will meet in this room with the Committee appointed last year to confer with them.

I will now declare an adjournment until 8 o'clock this evening.

#### EVENING SESSION.

THE PRESIDENT.—Dr. Drew was obliged to be absent and has requested Dr. Copp to read his paper.

DR. COPP.—Those of you who have heard Dr. Drew read one of his own papers will know under what difficulties I am laboring in reading one for him.

The following papers were read:

"Impressions of Some Asylums in Scotland," by C. A. Drew, M. D., State Farm, Mass. (Read by Dr. Owen Copp.)



"The Present Status of Women Physicians in Hospitals for the Insane," by Mary M. Wolfe, M. D., Norristown, Pa. Discussed by Drs. H. M. Hurd, Sanborn, H. B. Howard, White, Houston, Babcock, Pilgrim and Dr. Wolfe in closing.

"The Employment of Women Nurses in the Men's Wards in Hospitals for the Insane," by Thomas J. Moher, M. D., Brockville, Ontario. (By title.)

"Forms of Insanity in Five Years' Admissions to and Discharges from Hospitals for the Insane in Massachusetts," by E. Stanley Abbot, M. D., Waverley, Mass.

"The Value of Staff Conferences in State Hospitals," by Elbert M. Somers, M. D., Ogdensburg, N. Y. Discussed by Dr. Southard.

"Pellagra in the United States," J. W. Babcock, M. D., Columbia, S. C. Discussed by Drs. H. M. Hurd, Kilbourne, Perry, Brush and Babcock in closing.

On motion the meeting adjourned.

WEDNESDAY, JUNE 2, 1909, 10 A. M.

The meeting was called to order by the President.

THE PRESIDENT.—The Council has had no meeting since yesterday and has no report to make. The first order of business is the election of the members proposed yesterday. The Secretary will read the names.

(This list is given in the first report of the Council.)

DR. H. M. HURD.—I move that these members be elected and that the Secretary be instructed to cast the ballot of the Association electing them to membership.

Which motion was duly seconded and carried.

THE PRESIDENT.—The Secretary has cast the ballot of the Association as instructed and these physicians are elected members of the Association.

We will now have the report of the Committee appointed at the last meeting of the Association to confer with the editors of the AMERICAN JOURNAL OF INSANITY. Dr. White is Chairman of that Committee.

REPORT OF THE COMMITTEE APPOINTED AT THE LAST MEETING OF THE ASSOCIATION TO CONFER WITH THE EDITORS OF THE AMERICAN JOURNAL OF INSANITY.

Your Committee had for consideration a proposition to do away with the classification of associate members and make all members active. At

the same time it was contemplated doing away with the publication of the annual volume of transactions and instead publishing the transactions in the JOURNAL and sending the JOURNAL to each member of the Association. The object of this procedure was to do away with the expense of the annual transactions, which was considered unnecessary, especially because of its very late appearance. It was thought also that the associate members would be perfectly willing to pay the additional \$3.00 per annum consequent upon their transfer to the active list, provided thereby they received the JOURNAL.

In canvassing the situation, it has appeared to your Committee that there were many reasons why the transactions should not be dispensed with. They are considered highly valuable by many libraries and many of the members themselves would prefer them to having the proceedings of the meetings distributed throughout the various numbers of the JOURNAL.

Your Committee, therefore, makes the following suggestions, which would seem in their minds best to cover all of the difficulties of the situation:

(1) That an effort be made to secure the publication of the transactions more promptly after the annual meeting than heretofore. It is believed that this can be done by combining the editorship of the transactions and of the JOURNAL in the same individual and by refusing to consider for publication communications to the Association which are not handed in in typewritten form at the time of their presentation.

(2) Inasmuch as the finances of the Association are in such good condition, there being at present approximately \$2000 surplus in the treasury, your Committee thinks it a good business proposition to undertake to furnish the JOURNAL to members of the Association at an annual subscription rate of \$3.00. It will thus be seen that an associate member paying \$2.00 per annum dues and \$3.00 for the JOURNAL will secure both the transactions and the JOURNAL for the annual expenditure of \$5.00.

(3) Your Committee desires to urge the heads of all institutions engaged in the care of the insane in this country to subscribe to the JOURNAL for the institutions and recommends that the editor call specific attention to this necessity by addressing such heads, either in person or by communicating with the governing boards of such institutions as do not now subscribe.

(4) Your Committee also recommends for the purpose of increasing the revenues from advertising in the JOURNAL that the editor thereof communicate with all manufacturers of hospital goods of whom he may learn, calling their attention to the desirability of advertising their wares in a journal which has a circulation among institutions containing in the aggregate upwards of 150,000 beds.

(5) Your Committee further recommends that the Treasurer be instructed to pay such amount as may be necessary to make up any deficit arising from the publication of the JOURNAL.

Respectfully submitted,

WILLIAM A. WHITE, *Chairman.*

On motion, duly seconded, the report was accepted and adopted.

THE PRESIDENT.—I will call for the report of the delegate to the Congress of American Physicians and Surgeons.

DR. ABBOT.—Dr. Tuttle, the alternate delegate, who makes the report, is absent in Europe and he has asked me to read the report for him.

ATLANTIC CITY, June 2, 1909.

*Dr. A. F. Kilbourne, President of the American Medico-Psychological Association:*

DEAR SIR.—I beg to make my report as Alternate Delegate to the American Congress of Physicians and Surgeons.

The Executive Committee of the American Congress of Physicians and Surgeons, composed of delegates from the various societies and associations of the Congress, met at the University Club, in New York, on the evening of January 9. Sixteen delegates were present.

Dr. Wm. H. Carmalt was chosen President, and Dr. Wm. K. Simpson Secretary of the Committee.

The application for admission to membership of the American Society of Topical Medicine was considered and was rejected for the reason that the volume of transactions submitted did not show sufficient original work.

The resignation from the Congress of the American Physiological Society was received and accepted. There was some criticism of the previous method of conducting the meetings of the Congress and a plea was made for a more general discussion of topics presented instead of having reports of progress in the different branches from a very few men.

The following were elected members of the Program Committee:

Dr. Edward Reynolds, 65 Marlborough St., Boston; Dr. Abram Jacobi, 19 East 47th St., New York; Dr. Harold C. Ernst, 240 Longwood Ave., Boston; Dr. Herbert L. Burrell, 22 Newbury St., Boston; Dr. Charles Stedman Bull, 47 West 36th St., New York.

The Treasurer reported a balance on hand of \$800.

The Committee elected as officers of the Congress:

President, Dr. Edward L. Trudeau, Saranac Lake, N. Y.; Secretary, Dr. William H. Carmalt, 87 Elm St., New Haven, Conn.; Treasurer, Dr. Newton M. Shaffer, 28 East 38th St., New York.

Respectfully submitted,

GEORGE T. TUTTLE

DR. H. M. HURD.—I move that this report be accepted and placed on file.

Which motion was duly seconded and carried.

THE PRESIDENT.—Dr. Russell, as Chairman of the Committee on Legislation, will now present his report.

DR. RUSSELL.—Last year at the meeting in Cincinnati a special Committee was appointed to represent the Association in furthering the passage of a bill then pending in Congress. This bill provided for the deportation of all alien convicts at the expiration of their sentences, and was known as the Bennett Bill. The Committee did what they could to further its passage, but it failed. The probability is that a measure with the same purposes in view will be introduced again, probably in connection with other measures relating to immigration that may be the outcome of the report of a special commission that was appointed about two years ago.

This commission consists of three Senators, three members of the House of Representatives and three members appointed by the President. They have been making an extensive study of the subject and will probably make a comprehensive report, perhaps next year.

This Committee of the Association thinks it would be advisable that a new Committee be appointed this year with broader instructions than we had last year so that it might not only interest itself in matters before Congress, but also in the administration of departments that have to do with immigration. There are several points in regard to which useful work may be done. In the first place in regard to the medical inspection of immigrants; this is now provided by law and is attended to by the United States Public Health and Marine Hospital Service. At only one port, so far as we know, is any special attention given to inspection of immigrants with respect to the prevalence of mental diseases, that is at New York. There three specially qualified physicians are employed for that purpose. The result is that now as many cases are discovered in a month as were formerly detected in a whole year.

There are also possibilities of co-operating with other bodies interested in immigration; for instance, the National Prison Association. It seems to me, and to the Committee, that it would be advisable to give broader instructions, and the majority of the Committee feel that Dr. White should be the Chairman of the Committee, as he is located so favorably for watching the proceedings of Congress, and becoming well acquainted with the men in the department and members of Congress as well. Dr. White has been the active member of the Committee and has done practically all the work. I think it would be well to call on Dr. White for the details of what has been done as he is more familiar with them than I am.

DR. WHITE.—I have not very much to add to what Dr. Russell has said. I took up with Mr. Bennett the consideration of the bill we were interested in last year, and Mr. Bennett secured its consideration in the House by unanimous consent. It was late in the session and a good deal of objection was raised against the measure, and in the midst of this discussion the House adjourned. That left the bill in the air, as it was too late to get it on the calendar. After this happened I saw Professor Jenks, of Cornell University, a member of the Commission on Immigration, and had quite a talk with him about the bill. I understand from him that the whole matter is going to be very carefully reviewed, and that the provisions of the



Bennett Bill will probably be incorporated in a new bill at the next session of Congress, which will be somewhat more fully digested before presentation. The whole situation will be more thoroughly and carefully studied before an attempt is made to incorporate it in a definite bill.

I think we will hear from the bill during the next session, and by continuing the Committee we may be in a position to accomplish some good. I think it an important matter for consideration. This Association ought to have some Committee in existence which will be ready to represent the views of the Association at any time it seems advantageous to do so and with whom the Congressional Committee can communicate. This Committee of the Association can get other people like the National Prison Association interested and communicate their views also.

DR. BANCROFT.—The report of the Chairman, Dr. Russell, is interesting and gratifying, although, of course, it was unfortunate that the Bennett Bill should not have received consideration and discussion in Congress. However, it is gratifying to hear from Dr. White that probably the Bennett Bill will come up at some future time for action. There are some difficulties readily conceivable why the bill should not be passed. The fact that criminals suffering imprisonment for crime might have families in existence in this country, and the deportation after the expiration of the sentence might possibly bring up difficulties easily understandable. However, it is hoped that the Bennett Bill will come up for favorable consideration by Congress later on.

I believe that the proposition mentioned to continue this Committee, possibly with enlarged membership, with the view of keeping in touch with Congress in any future legislation on this subject is important. I think that as an organization it is extremely important that this Association should make itself felt in the national legislature, if possible, in the prevention of insanity, and this is one of the ways in which we can materially contribute toward that end.

It is important that the foreign element that is constantly coming into this country should be carefully inspected at the time of their arrival on this shore, and this Committee with enlarged powers could certainly have great weight, it seems to me, if they could come in touch with organizations and with the government concerning the mental inspection of new arrivals.

I, therefore, move that the Chair appoint a Committee of five, of which Dr. White, of Washington, D. C., be Chairman, who, with the advice and consent of the Council of the Association, shall favor any legislative or administrative measures which shall bring about the better regulation of immigration to this country of persons suffering from mental disease or defect.

DR. BRUSH.—It is an important matter that the powers and duties of this Committee be referred to the Council and that it instructs and directs. It is a little difficult, as I think Dr. Bancroft will admit, to lay down specifically what these duties are in the resolution he proposed. These



duties could be more clearly stated by the Council, who could give it careful consideration. I move this as an amendment to Dr. Bancroft's resolution.

THE PRESIDENT.—Will you accept that amendment, Dr. Bancroft?

DR. BANCROFT.—Yes, I will.

Dr. Bancroft's motion as amended was duly seconded and carried. On motion the report of Dr. Russell and Dr. White for the Committee on Legislation was accepted and adopted.

THE PRESIDENT.—The next in order is the report of Dr. H. M. Hurd on the history of the Association.

DR. H. M. HURD.—We can report that no progress has been made by the Committee, but that I hope another year to be able to come before the Association and ask for an appropriation for publishing the book. (Applause.)

THE PRESIDENT.—Dr. Hurd's report will be accepted unless there is objection. The Chair hears none and the report is accepted.

The next in order is the report of the Nominating Committee.

DR. BURGESS.—Your Nominating Committee reports as follows:

For President, William F. Drewry, M. D., Petersburg, Va.

For Vice-President, Charles W. Pilgrim, M. D., Poughkeepsie, N. Y.

For Secretary and Treasurer, Charles G. Wagner, Binghamton, N. Y.

For Councilors: Henry D. Allen, M. D., Milledgeville, Ga.; Owen Copp, M. D., Boston, Mass.; F. W. Harmon, Cincinnati, Ohio; George Villeneuve, M. D., Quebec.

For Auditor, George W. King, M. D., Jersey City, N. J.

For Councilor to fill vacancy caused by promotion of Dr. Wagner, Robert B. Lamb, M. D., Matteawan, N. Y.

On motion, duly seconded, the report of the Nominating Committee was accepted and adopted.

On motion, duly seconded, the President was authorized and directed to cast the ballot of the Association electing these officers.

THE PRESIDENT.—I hereby cast the ballot of the Association electing these officers for the ensuing year. The next is the report of the Auditors.

DR. HUTCHINGS.—I am the only representative of the Auditors who is present at this meeting. I carefully examined the books and accounts of the Association, including the vouchers and the bank books, and found everything in good order and according to the report of the Treasurer.

The accounts of the AMERICAN JOURNAL OF INSANITY were also examined and proper vouchers were found for the several expenditures. It is suggested that the publishing company be requested to hereafter submit the bank books in order that they may be checked up with the statement of the Treasurer.

On motion, duly seconded, the report of the Auditing Committee was accepted and adopted.

THE PRESIDENT.—I will appoint as the Committee on Resolutions: Dr. B. D. Evans, of New Jersey; Dr. M. J. White, of Wisconsin, and Dr. Charles G. Hill, of Maryland. We will now proceed to the reading of papers.

The following papers were read:

"The Insanity-Defence for Crime," by John B. Chapin, M. D., Philadelphia, Pa.

"Court Testimony of Alienists," by B. D. Evans, M. D., Morris Plains, N. J.

DR. EVANS.—This is an attempt on my part to put in the form of a paper an address I delivered to the State Bar Association at Atlantic City some time ago from notes, and if it seems in parts disconnected I hope you will indulge me.

The papers of Drs. Chapin and Evans were discussed by Drs. Tomlinson, Stedman, Burgess, Brush, Mills, Mitchell, Hill, Southard and Dr. Evans in closing.

THE PRESIDENT.—I will now declare a recess until 2 o'clock this afternoon.

#### AFTERNOON SESSION.

THE PRESIDENT.—The Association will please come to order.

DR. H. M. HURD.—I would like to move, in view of the fact that we are a little behind in our program, that discussions be limited to five minutes, and that the President be instructed to mark a time limit.

Which motion was duly seconded and carried.

DR. STEDMAN.—I have been asked to present this resolution.

WHEREAS, The insanity-defence for crime and the court testimony of alienists have been discussed both by the public and by the legal and medical professions, without arriving at unanimity of opinion;

WHEREAS, The question of responsibility, the differentiation of insanity and crime, the method of selecting medical experts, the value of hypo-

thetical evidence, the formulation of hypothetical questions, and the medico-legal attitude of the medical profession have all been discussed by representative members of this Association in annual meeting with the result of disagreement or absolute discordance of opinions;

WHEREAS, The conduct and attitude of certain medico-legal experts of this country has been subjected to severe adverse criticisms in the press and elsewhere;

*Resolved*, That the American Medico-Psychological Association do endeavor to arrive at a satisfactory definition of the medico-legal issue in so far as it bears upon the attitude and position of its members, and

That, to this end, a representative Committee of five be appointed by the Chair to report upon this question at the next annual meeting and to present a set of resolutions which shall be publicly circulated as representing the opinion of this Association upon the topics above named.

DR. HILL.—I rise to second the resolution. I hope it will not end here and be lost through neglect or indifference as have so many of our good resolutions.

Carried.

The following papers were read:

"Conscious Epilepsy," by L. Pierce Clark, M. D., New York, N. Y.

"The Pathological Significance of Mental Symptoms. Wernicke's Classification of Symptoms," by A. J. Rosanoff, M. D., Kings Park, N. Y.

"Studies in Heredity with Examples," by William C. Sandy, M. D., Trenton, N. J. Discussed by Dr. Abbot.

"Hysteria: What it is and What it is Not," by Charles K. Mills, Philadelphia, Pa. Discussed by Drs. Hill, Stedman and Mills in closing.

THE PRESIDENT.—The Council will meet immediately after the evening session. We will now have a recess until 8.30 this evening, when Professor J. Woodbridge Riley will deliver the annual address.

#### EVENING SESSION.

THE PRESIDENT.—The Association will please come to order. I have the honor and pleasure of introducing to you Professor J. Woodbridge Riley, Taylor Professor of Philosophy (Department of Psychology), Vassar College, Poughkeepsie, N. Y., who will deliver the annual address, "Mental Healing in America."

Professor Riley then delivered his address, "Mental Healing in America," which was greeted with much applause.

Adjournment.

THURSDAY, JUNE 3, 1909, 10 A. M.

THE PRESIDENT.—The Association will please come to order. The next thing is the report of the Council.

REPORT OF THE COUNCIL OF THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.

ATLANTIC CITY, N. J., June 3, 1909.

The Council has fixed the place and time for the next annual meeting at Washington, D. C., May 3, 4, 5, and 6, 1910, in conjunction with the Congress of American Physicians and Surgeons, of which this Association is a constituent society.

The Council makes the following recommendations:

That the incoming President be authorized to appoint a Program Committee for the next annual meeting, and also a Committee of Arrangements.

That three hundred dollars, or as much thereof as may be needed, be appropriated for the use of the AMERICAN JOURNAL OF INSANITY.

That the dues for the ensuing year be fixed at the usual rate, viz., five dollars for active members and two dollars for associate members.

That in accordance with custom the Secretary be authorized to reimburse Professor Riley for his traveling and hotel expenses.

That the Secretary be authorized to publish the transactions of this meeting.

By resolution, the Council has authorized the following instructions and powers to the Committee on Immigration Legislation as follows:

We authorize this Committee to use its influence to promote any legislative or administrative measures having for their purpose improvements in the class of immigration and a better medical inspection of immigrants at the various ports of entry into this country.

The Council recommends the transfer of the following named associate members to the active class:

Samuel W. Hamilton, M. D., Utica, N. Y.; James F. Munson, M. D., Sonyea, N. Y.

The Council recommends the election of the following named physician to the active class:

J. S. De Jarnette, M. D., Staunton, Va.

The Council recommends the election of the following named physicians to the associate class:

Francis M. Barnes, Jr., M. D., Baltimore, Md.; Lena Beach, M. D., Cherokee, Iowa; C. C. Burlingame, M. D., Westboro, Mass.; H. D. Earl, M. D., Cherokee, Iowa; John Cecil George, M. D., Dayton, Ohio; M. D. Jordan, M. D., Westboro, Mass.; Ralph C. Kell, M. D., Spring City, Pa.;



T. L. Long, M. D., Cherokee, Iowa; Benjamin R. McAllaster, M. D., Cherokee, Iowa; Emit Luther McCafferty, M. D., Mt. Vernon, Ala.; William Dempsey Partlow, M. D., Tuscaloosa, Ala.; James H. Randolph, M. D., Tallahassee, Fla.

The Council has received the following applications for active membership. In accordance with the constitution, final consideration of these will be deferred until next year:

W. L. Athon, M. D., Anna, Ill.; Swepson J. Brooks, M. D., Harrison, N. Y.; Robert George Cook, M. D., Canandaigua, N. Y.; George Van Ness Dearborn, M. D., Cambridge, Mass.; James Leon Greene, M. D., Hospital, Ill.; Presley C. Hunt, M. D., Washington, D. C.; John C. King, M. D., Marion, Va.; George H. Kirby, M. D., New York, N. Y.; John McCampbell, M. D., Morganton, N. C.; James J. Neely, M. D., Bolivar, Tenn.; John M. Semple, M. D., Medical Lake, Wash.; Fred W. Terflinger, M. D., Logansport, Ind.; David Fairchild Weeks, M. D., Skillman, N. J.; Tom A. Williams, M. D., Washington, D. C.; William Tassie Wilson, M. D., Cobourg, Ontario; ——— King, M. D., Mendocino, Cal.; F. Clark, M. D., Stockton, Cal.; Elliott Blair, M. D., Patton, Cal.; Frank W. Hatch, M. D., Sacramento, Cal.; Leonard Stocking, M. D., Agnews, Cal.; R. L. Willis, M. D., Lexington, Ky.; Henry M. Pollock, M. D., Norwich, Conn.; William E. Ramsey, M. D., Perth Amboy, N. J.; Frank Woodbury, M. D., Philadelphia, Pa.

Respectfully submitted,

CHARLES W. PILGRIM, *Secretary*.

On motion, duly seconded, the report of the Council was accepted and adopted.

THE PRESIDENT.—I will appoint the following Committees:

On Legislation and Immigration: Dr. William A. White, Chairman, Washington, D. C.; Dr. William L. Russell, New York; Dr. Owen Copp, Massachusetts; Dr. Albert Warren Ferris, New York, N. Y.; Dr. W. W. Hawke, Pennsylvania.

On Expert Testimony: Dr. Henry R. Stedman, Chairman, Massachusetts; Dr. Carlos F. MacDonald, New York; Dr. Charles K. Mills, Pennsylvania; Dr. H. A. Tomlinson, Minnesota; Dr. Charles P. Bancroft, New Hampshire.

Inasmuch as we are somewhat behind with our program, I will request that those who read papers abridge them so as to bring them within the twenty-minute limit.

The following papers were read:

"Huntington's Chorea," by W. H. Hattie, M. D., Halifax, N. S.

"Hysterical Insanity with Report of Cases," by W. A. Taylor, M. D., Trenton, N. J. (By title.)

"Neurasthenic and Psychasthenic Psychoses," by Henry P. Frost, M. D., Buffalo, N. Y.

"An Analysis of Psychoses Associated with Graves' Disease," by F. H. Packard, M. D., Waverley, Mass. Discussed by Drs. Stedman and Packard.

"Comparative Psychological Studies in the Mental Capacity in Cases of Dementia Præcox and Alcoholic Insanity," by Henry A. Cotton, M. D., Trenton, N. J. (By title.)

"A Study of the Auto- and Somato-Psychic Reaction in Dementia Præcox," by William Burgess Cornell, M. D., Baltimore, Md.

"The Cyclic Forms of Dementia Præcox," by William Rush Dunton, M. D., Towson, Md.

"A Few Histories to Illustrate a Modern Conception of Dementia Præcox," by C. Macfie Campbell, M. B., New York City.

"Acute Alcoholic Hallucinosiis," by William C. Garvin, M. D., New York City. Discussed by Drs. Mitchell, Stanley and Garvin.

THE PRESIDENT.—There will be a recess until 2 o'clock this afternoon.

#### AFTERNOON SESSION.

THE PRESIDENT.—The meeting will please come to order.

The following papers were read:

"The Ganser Symptom and Symptom-Complex," by Theo. I. Townsend, M. D., Dannemora, New York. Discussed by Drs. Frost and Townsend.

"A Report of Three Cases of Korssakow's Psychosis," by Charles E. Stanley, M. D., Middletown, Conn.

"The Mixed Forms of Manic-Depressive Insanity," by George H. Kirby, M. D., New York City. Discussed by Drs. Abbot, Blumer and Kilbourne.

"Depressions," by E. Moore Fisher, M. D., Morris Plains, N. J. (By title.)

"Anatomical Findings in Senile Dementia: A Diagnostic Study," by E. E. Southard, M. D., Hathorne, Mass. Discussed by Drs. Abbot, Rosanoff, Packard and Southard.

"The Application of Immunity Reaction to the Cerebro-Spinal Fluid," by J. W. Moore, M. D., Central Islip, N. Y. Discussed by Drs. Southard and Rosanoff.

"A Study of Body Temperature in Paralytic Dementia," by A. B. Coleburn, M. D., Middletown, Conn.

THE PRESIDENT.—There will be a meeting of the Council with Dr. White's Committee on Immigration and Legislation immediately in the Council Room.

We will now adjourn until to-morrow morning at ten o'clock.

FRIDAY, JUNE 4, 1909, 10 A. M.

THE PRESIDENT.—The Association will please come to order. The first matter is the report of the Council.

REPORT OF THE COUNCIL FOR JUNE 4, 1909.

The Council has received the applications of the following named physicians for active membership. In accordance with the constitution, final action will be deferred until next year:

Clarence Pierson, M. D., Jackson, La.; William W. Skinner, M. D., Geneva, N. Y.; Edward W. Scripture, M. D., New York, N. Y.

The Council has authorized Dr. Albert Warren Ferris to publish his paper read at this meeting elsewhere than in the *AMERICAN JOURNAL OF INSANITY*, if he so desires.

The Council recommends the appointment of Dr. John Gerald Fitzgerald, of Boston, Mass., to prepare a paper on "Vaccine Therapy," as the contribution of this Association to the program of the Congress of American Physicians and Surgeons on May 4, 1910.

Respectfully submitted,

CHAS. W. PILGRIM, *Secretary*.

On motion, duly seconded, the report of the Council was accepted and adopted.

THE PRESIDENT.—The next in order is the election of the members proposed yesterday. The Secretary will read the names.

(This list is given in the report of the Council for Thursday.)

DR. LANGDON.—I move that these members be elected and that the Secretary be instructed to cast the ballot of the Association electing them to membership.

Which motion was duly seconded and carried.

THE PRESIDENT.—The Secretary has cast the ballot of the Association as instructed, and these physicians are elected members of the Association.

It is with regret that I announce the death of Dr. Charles F. Folsom, of Boston, one of our honorary members. An obituary notice will be prepared for the transactions.

The following papers were read:

"A Review of Infective-Exhaustive Psychoses; with Special Reference to Sub-Division and Prognosis," by Samuel W. Hamilton, M. D., Utica, N. Y.

"An Anatomical Analysis of Seventy Cases of Senile Dementia," by C. G. McGaffin, M. D., Taunton, Mass. Discussed by Drs. Kirby and McGaffin.

"Notes Comparing General Paralysis and Cerebral Syphilis," by G. Y. Rusk, M. D., New York, N. Y.

"Some Peculiar Nucleolar Alterations in the Ganglion Cells of the Cerebral Cortex," by F. S. Hammond, M. D., Trenton, N. J.

"Scarlet Fever as an Etiological Factor in Subsequent Psychoses," by Edgar B. Funkhouser, M. D., Trenton, N. J. (By title.)

THE PRESIDENT.—This completes the scientific part of our program. I will now call for the report of the Committee on Resolutions.

DR. HILL.—The Chairman of that Committee has requested me to read this report in his absence.

Your Committee on Resolutions beg leave to submit the following, viz.:

*Resolved*, That the thanks of this Association be extended to Prof. J. Woodbridge Riley for the able and interesting address delivered on the evening of June 2, 1909. And be it further

*Resolved*, That the Secretary of this Association be instructed to communicate the same to him in writing and request a copy of his address for publication in our proceedings.

*Resolved*, That the Secretary of this Association be requested to express to the Honorable Joseph S. Frelinghuysen its sincere appreciation of the cordial welcome extended by him on behalf of the State of New Jersey; and also the Honorable Franklin P. Stoy, Mayor, for the hearty reception extended this body on behalf of Atlantic City; and to the proprietors of the Marlborough-Blenheim Hotel for their hospitality and courteous treatment.

Respectfully submitted,

B. D. EVANS,  
M. J. WHITE,  
CHAS. G. HILL,

Committee.

On motion duly seconded the report was accepted and adopted.

THE PRESIDENT.—Personally I wish to express my appreciation of the very good attendance throughout this meeting; at the profound interest



shown in all the papers from first to last, and I sincerely trust we may have as pleasant a meeting in Washington next year.

I will appoint as a Committee to bring before the Association the President-elect Dr. Langdon and Dr. Tomlinson.

DR. LANGDON.—Members of the Association, I take great pleasure in introducing to you your President-elect, Dr. William F. Drewry, of Virginia. (Applause.)

THE PRESIDENT-ELECT.—I wonder, ladies and gentlemen, if there has ever been a man who, on being led to the presidential chair, did not feel very much as if he were being taken to an electric chair. If there has been such an individual he must have been "nervy" indeed. I have endured this ordeal a time or two, but experience has not lessened my embarrassment, yet I am willing to try again. It's like a man getting married the second time. It makes no difference how trying his experience has been he is willing to venture again. (Laughter.)

To be chosen President of this great Association is, to my mind, the highest official honor that can be conferred upon an American physician by his colleagues. It is a position of trust and distinction that has been worthily filled by some of the foremost alienists. I know full well that my shortcomings and lack of qualifications to perform the duties of this great office will lower the high standard maintained by my predecessors, yet, by your help and cordial support, I shall hope to merit your approval of my "administration." At all events I shall give for the next twelve months the best that is in me to the service of the Association. I most gratefully appreciate and thank you for this expression of your confidence and for the honor you have done me. (Applause.)

The Chair is now ready for any further business before this meeting.

DR. HILL.—*Mr. President*, I have the honor to present the first business before you. There is an old saying we should welcome the coming and speed the parting guest. I am sure we have welcomed the coming guest with all our heart. To speed the parting guest we have not quite finished our expressions. I move that we offer unanimously a vote of thanks to our retiring President for his courtesy, for his patience and efficiency in presiding over our deliberations.

I also move a vote of thanks to our retiring Secretary. The President comes and goes. The Secretary remains. We know our Secretary has been efficient for many years. We only part with him as Secretary with the idea of promoting him to higher office. He deserves the unanimous thanks of the Association for what he has done for us in the past.

THE PRESIDENT-ELECT.—It gives me pleasure to put Dr. Hill's motion conveying as it does expression of the appreciation of the valuable services rendered the Association by two very efficient officers, Drs. Kilbourne and Pilgrim.

The motion was unanimously carried by a rising vote.

DR. KILBOURNE.—I thank you, gentlemen.

DR. PILGRIM.—I thank you very much.

THE PRESIDENT.—It gives me pleasure to announce the following Committees:

On Program: Dr. Arthur W. Hurd, Chairman, New York; Dr. E. E. Southard, Massachusetts; Dr. J. T. Searcy, Alabama; Dr. C. B. Burr, Michigan; Dr. J. H. McBride, California; Dr. N. H. Beemer, Ontario.

On Arrangements: Dr. William A. White, Chairman, Washington, D. C.; Dr. William L. Robins, Washington, D. C.; Dr. Oliver C. Brunk, Virginia; Dr. J. Percy Wade, Maryland; Dr. Henry A. Cotton, New Jersey.

This closes a very pleasant and successful meeting. I hope that it will be the pleasure of those in attendance here and many others to come to Washington next May and aid in making our sixty-sixth meeting a grand success. The Capital City people have always given us a very cordial greeting and treated us most hospitably, and they will doubtless do so again. But if they fail, remember Virginia is near by.

There being no further business, I declare this meeting of the Association adjourned.

CHAS. W. PILGRIM,  
*Secretary.*

## Obituary.

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### DR. JOHN P. BROWN.

John Peasler Brown died September 19, 1908, at the home of his daughter in Springfield, Mass., after a prolonged illness. He was a native of New Hampshire, one of eight children of a small farmer, born October 12, 1833. He was prepared for college at Phillips Andover Academy. He graduated at Dartmouth College in 1860, after he had obtained the means for his education by his own labors upon the farm and as a teacher. He taught in Louisiana for a time after his graduation, but the Civil War soon compelled him to return to the North, and he began the study of medicine. He graduated from the Harvard Medical School in 1865. Immediately thereafter he was appointed an assistant physician at the New Hampshire State Hospital, then under the charge of the late Dr. J. P. Bancroft. He remained at this institution from April, 1865, until March, 1878, when he resigned to accept the position of Medical Superintendent of the Taunton (Massachusetts) Insane Hospital. This position he held for 28 years, and concerning his occupancy of it his successor, Dr. Goss, in a memoir to be published later in the transactions of the American Medico-Psychological Association, writes: "When he took up the duties of the office in 1878 his life work may be said to have begun, what he had previously done being simply preparatory to the larger and more complete work. To develop and improve the efficiency of his institution, to raise the standard of care, improve the methods of treatment, and in every possible way to promote the health and comfort of those under his care, became not merely his life work but his life itself. At the end of his service, the hospital, within and without, in administration, organization, aims, and aspirations, was as he, and he alone, had made it, and when he finally felt it his duty to lay down the burden that advancing years and increasing ill health had made too heavy, he felt that his life's work was done,

that his life was ended. He was excellently equipped for his work. He brought to it, in addition to his ability as an organizer, administrator, and disciplinarian, sound judgment, rare tact, accurate knowledge of general medicine and psychiatry, together with the ability to think along comprehensive lines, and to deal with large subjects. He was an omnivorous reader and a ripe scholar. His knowledge of men was marvelous; he was seldom deceived, and his analysis and estimate of the characters of those around him were very accurate. The after-lives of his assistant physicians, in most cases, approximated quite closely to the judgment he had formed of them. Always dignified and reserved in bearing, his frankness, sincerity, and kindness of heart won the respect and affection of all classes. Though trained in the older traditions of his specialty, he observed closely the trend of the times and was quick to inaugurate any change or reform that seemed called for. Often the first, ever among the first, he never was the last. Between him and his trustees there ever existed perfect confidence and oneness of purpose and action, and his entire administration was marked by fidelity on his part and perfect confidence in theirs."

He married, in 1865, Caroline A. Stevens, of Mt. Vernon, N. H., and his domestic life was most happy. She died suddenly in 1906, and he felt her loss so keenly that he retired three months later from the responsible trust which he had administered for so many years.



## Notes and Comment.

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THE PROPOSED NEW HOSPITAL FOR MENTAL DISEASE IN BOSTON.—From the *Boston Medical and Surgical Journal* of May 20, 1909, it is learned that the Committee on Public Charities has recommended to the legislature the passage of a bill for the establishment of a hospital for the first care and examination of mental patients from Boston and vicinity, the bill providing an appropriation of \$600,000 for this purpose. It is intended that provision be made for 100 patients, besides an out patient department, and laboratories, it being expected that from 1500 to 2000 patients will be treated each year, and that the length of treatment will average three or four weeks. It had been intended to locate this hospital in the neighborhood of Tufts and Harvard Medical Schools, but at a preliminary hearing before a legislative committee, held early in the year, there was shown a violent opposition to such location by various interested persons. It is hoped, however, that a site will be secured near the medical teaching center of Boston, as all who are interested realize how valuable such a hospital may be in affording more thorough clinical study of mental diseases by undergraduates in medicine. It is expected that the bill will finally be passed by the legislature.

TRANSACTIONS OF THE THIRD INTERNATIONAL CONGRESS ON NURSING THE INSANE.—We are requested by Professor Pilcz to announce that the official general report of the Third International Congress on Nursing the Insane will be issued in July and sent to members of the Congress. Non-members can procure the report through Carl Marhold Bookseller, Halle.

INTERNATIONAL AMERICAN CONGRESS OF MEDICINE AND HYGIENE 1910.—It is proposed to hold in Buenos Aires, Argentine Republic, an International American Congress of Medicine and Hygiene in commemoration of the first centenary of the Revolution of May 25, 1810, from which time Argentina dates its freedom.

An executive committee has been formed and a programme is in course of preparation.

**THE MEETING AT ATLANTIC CITY.**—The sixty-fifth annual meeting of the American Medico-Psychological Association at Atlantic City, June 1-4, was in many respects one of the most satisfactory sessions that the association has held.

In the first place an excellent programme had been prepared, and Dr. Pilgrim, the secretary, had it printed in a way which promoted interest in the papers presented, and encouraged a more active and intelligent discussion than we recall at any recent meeting.

The papers by Drs. Chapin and Evans excited as active discussion as any because of the subjects dealt with, criminal responsibility and expert testimony.

The committee appointed to consider what reforms, if any, are needed in the matter of expert testimony is an excellent one, and we trust that something of practical value will result from its deliberations.

It is to be regretted that the health of the president, Dr. Kilbourne, was such that he was unable to prepare the annual address usually expected from the presiding officer. The members of the association will, we are confident, unite with us in wishing for him a speedy restoration to health.

The affairs of the JOURNAL received more than ordinary attention at the hands of the association, and as a result of a recommendation of a committee of which Dr. William A. White of the Government Hospital for the Insane was chairman and of the editorial board, members of the association will receive the JOURNAL in the future at the reduced rate of \$3.00 per annum. Every member, active and associate, should in view of this liberal concession place his name on the subscription list, and the superintendent or director of every hospital or other institution for the insane should see that the institution receives and pays for the JOURNAL at the regular rate.

The meeting next year will be held in Washington in conjunction with the other medical organizations constituting the Congress of American Physicians and Surgeons.

A full account of the meeting at Atlantic City will be found in this issue, as well as some of the papers read.

## Abstracts and Extracts.

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*La mort suite de ponction lombaire.* Par Drs. MINET et LAVOIX. L'Echo Médical du Nord, Année 13, p. 193, 25 Avril, 1909.

The authors have collected 24 cases from the literature in which death has accompanied lumbar puncture or followed it at intervals varying from one hour to 12 days. Various authors are quoted who give various reasons for such accidents, these being discussed, and in conclusion it is stated that "the pathogenic mechanism of the fatal accidents consecutive to lumbar puncture is truly multiple and it is not always in the same way that the subtraction of cerebrospinal fluid leads to a fatal termination: sometimes it is due to vasomotor phenomena resulting in a hemorrhage (this being the only exact fact which we know); at other times the fall of the cerebellum on the bulb may be a cause of sudden death; at other times, and these are the most numerous cases, we have grounds to believe, without proof to the contrary, that there occurs a bulbar shock. In reality, in most instances, the pathologic physiology of these accidents is obscure. We may discuss these proposed explanations and express our preference for one or another, but we may not decide in favor of any one."

The article is concluded with directions for performing lumbar puncture so that chances of death occurring are minimized, these having been formulated by Sicard, particularly for cases of cerebral neoplasm.

1. Refuse to puncture any patient known to have cerebral tumor, in whom the functional disturbances, cephalalgia, nausea, and vertigo are noticeably exaggerated by horizontal decubitus.

2. Putting this even more strongly, the authors say: Refuse lumbar puncture to any patient known to have cerebral neoplasm, in whom the functional troubles are not very marked, where they yield to palliative therapeutics. Neither practice it on any patient where these troubles, not yielding to any symptomatic treatment, make life intolerable for the patient.

3. Before performing lumbar puncture allow the patient to rest in bed for 24 hours.

4. For each lumbar puncture, operate in lateral decubitus with the head not elevated.

5. After having made lumbar puncture allow the patient to remain in bed, in dorsal decubitus, the head not elevated, for 24 hours.

6. Do not abstract more than 4 or 8 ccm. of fluid, and without aspirating.

7. Use a fine needle, from .8 to .10 mm., to reduce to a minimum the meningeal opening.

In cases of cerebral neoplasm the following should apply most strictly:

1. Before puncture, rest in bed for 24 hours, the head not elevated.
2. Do not puncture except in lateral decubitus, the head slightly lowered, in a sort of Trendelenberg position, which may be easily obtained by supports slid under the front feet of the bed.
3. After puncture keep this position with head slightly lowered for 12 or 24 hours; then a horizontal position in bed for 24 hours, the head not elevated.

W. R. D.

*La colesterina nel liquido cefalorachidiano del paralitici, e sua partecipazione alla reazione di Wassermann.* Del DOTT. GIACOMO PIGHINI. *Reforma Medica*, Anno XXV.

Recently in another paper, after showing that cholesterin, as in an emulsion of nervous tissue, had the property of impeding the hemolysis of lecithin and of the specific serums, the author expressed the hypothesis that the cerebrospinal fluid of paretics and the extract of the liver of syphilitic fetuses—richest in those elements known in the Wassermann reaction as antigen and antibody—might contain cholesterin. The present study is to confirm this view and was made on a number of insane patients, including 10 paretics. Another research showed that cholesterin was found in the alcoholic extract of liver of a syphilitic fetus in greater quantity than in that of a normal fetus.

It is known that the serum of normal blood contains a trace of cholesterin. The cerebrospinal fluid does not normally contain cholesterin.

The method used is then given in detail, following which is a table giving a very brief description of each case and the results of the tests upon the cerebrospinal fluid and serum; these results are also summed up for each group of cases and after some discussion concludes as follows:

Cholesterin may be found as a pathologic constituent of the cerebrospinal fluid of paretics, and of severe cases of dementia præcox and of epilepsy; it may be found also in abnormal quantities in the serum of paretics and severe cases of epilepsy.

It seems probable that the active substance in the alcoholic extract of the cerebrospinal fluid and of the serum used in the Wassermann test may be cholesterin.

W. R. D.



## Book Reviews.

*Sixteenth Annual Report of the State Charities Aid Association to the State Commission in Lunacy.* Nov. 1, 1908. (New York City: United Charities Building, 105 E. 22d St.)

All persons interested in the better care of the insane will find many helpful suggestions in the annual reports of the New York State Charities Aid Association. From the report before us we learn that the total number of insane persons treated in State hospitals and licensed private asylums has increased by 1414 during the year, the largest annual increase in the history of the State. During the previous ten years the average annual increase has been 741 persons. No explanation is given of this unusual increment and we are left to infer that it may have been connected with exceptional conditions incident to the recent financial and industrial crisis.

In the consideration of the question of the amount of land required for a State hospital for the insane the following excellent suggestions are made:

"We may properly inquire, not simply what is the minimum amount of land required, but also what are the larger advantages which may result both to the hospitals and to the community in a more generous conception of the possibilities of usefulness of these State farms. The State is spending large sums of money in schools of agriculture; why not treat these State hospital farms as a part of such schools, as it were, or as extensions of them, making a practical connection in various parts of the State with the farming community?"

The following, in line with this suggestion, is also quoted approvingly from a visitor to one of the State hospitals:

"What, for instance, is there to prevent the Farm Department [of the St. Lawrence State Hospital] from giving an object lesson to the farmers of this section of the State in modern scientific cultivation of crops, and why should not the live stock on the farm be of the best type? Would it not be a wise policy to breed the best type of cattle and horses and hogs and offer yearly by public sale, the overplus to the farmers of the State? There can be no question but that such a policy would result in better financial returns, to say nothing of the benefits to be derived by those who pay for the support of the hospital. It has always seemed to me that a State institution should embrace all the opportunities at its command to radiate instruction and usefulness, and while a hospital for the insane is primarily for the care of those unfortunates who are its inmates, yet, when it can at the same time act as an instructor in any of the great industries of the State, surely it misses the higher calling when it fails to do so."

The training of nurses and attendants still demands much thought and attention, and the outlook is not encouraging. Every effort which has been made thus far to raise the educational requirements of State hospital training schools seems to have decreased the number of those who applied for entrance. There has been no marked increase in the number of pupils in these training schools for some years, and, as a result, the very large proportion of those who are in charge of patients are neither pupil nor graduate nurses. In the annual report of the State Charities Aid Association for 1907 the percentage of pupils and graduates in the State service for the thirteen State hospitals was but 37.4 per cent. This deplorable state of affairs would seem to call for a radical remedy and yet it is difficult to indicate what should be done. It would seem wise to establish a preparatory course based on the experience of training schools for nurses in general hospitals and to insist that all persons entrusted with the care of patients be required to take this course prior to employment. It is evident that greater use should be made of women nurses in men's wards, and that many, and perhaps the majority, of men nurses should be relegated to a position analogous to that of an orderly in a general hospital, being subordinate to women nurses and under their direction. It is encouraging to perceive a movement to place training schools in State hospitals under trained superintendents of nurses of large experience and of recognized ability. It is to be hoped that the Lunacy Commission will give increased attention to the importance of securing well-trained and competent persons to take care of the insane. The old era of the "asylum attendant" is passing, and the "hospital nurse" should replace him.

The chapter on "Occupation and Entertainment" deserves careful attention. The suggestion that a well-qualified person travel about from hospital to hospital to give instruction in useful handicrafts to beautify the hospitals and to furnish instruction in what may afterwards prove a remunerative occupation for discharged patients is an excellent one.

We regret to note that little progress has been made in the attempt to give better care to the alleged insane pending commitment in view of the fact that in 1907 17 per cent of the patients admitted to State hospitals were received from jails, lockups and police stations. Dr. W. L. Russell made a report to the Conference of Superintendents of State Hospitals which showed that in many instances "the patients were given no special consideration, and were found in unsanitary, uncomfortable, sometimes filthy and vermin-infested cells, not infrequently in company with persons accused of crime, notwithstanding that this is specifically forbidden by law. In one instance the patient was found in the same room with a person accused of being implicated in a murder and developed a delusion that she herself was accused of the crime. In another a patient received a scalp wound by being struck with a pitcher by a prisoner. In still another the report stated that a woman patient was found in a basement cell, without windows, dark and damp, with no toilet facilities and separated only by a slat door from the quarters of a drunken man. Other reports showed

that the patients were cared for by prisoners, or were in a common room with drunkards and tramps. Under such circumstances no attempt at medical care and nursing could be expected, and sometimes the most ordinary needs of the patients were neglected. At a jail in one of the larger cities, a woman was found by the nurse in a cell in which she could scarcely sit up, it was so small. 'Three walls were padded with some coarse material and the fourth, the front, was a grated door. There was no water section or available toilet facilities. The patient was entirely naked and was extremely filthy and dirty.' The village lockups in which the patients were found were sometimes apart from other buildings and little used. The patients in them were sometimes left alone for long periods, and a suicidal attempt and a fire started were among the occurrences reported. Reports of insufficient food, clothing and bedding, of cold, and of inattention to medical treatment and nursing are among those received. In one instance it was stated that the food was bread and water. One man was far advanced in tuberculosis and delirious. Another was very sick, without fire or sufficient clothing, and died two days after reaching the hospital. An epileptic was drenched with a bucket of water whenever he had a fit.

The worst feature of all in the case of the insane women confined in jails and lockups is the lack of provision for attendance by persons of their own sex. In a large number of instances, the reports indicated that they were left entirely to the care of men. The impropriety and danger of this to both the patients and their custodians can scarcely be exaggerated and accusations of sexual assaults by police officers or jail keepers have been made by some of the women. In this way innocent persons may be exposed to false accusations from which they might have no opportunity to defend themselves. In one instance the nurse found an insane woman entirely nude in her cell, and the only person to attend to her was a man who handed her food in at each meal. The detention of women without attendance by persons of their own sex is, to say the least, indecent, and one wonders why it is permitted even in the case of those accused of crime." The only remedy would seem to be a State law governing the matter of the detention of alleged insane persons prior to admission and applicable to every part of the State. Where institutions for the insane are easily accessible or where general hospitals exist patients should be admitted to these institutions under emergency certificates. Jails and lockups ought to be absolutely forbidden to insane persons.

Space will not permit a consideration of the important work undertaken in the after-care of patients. It is gratifying to observe how rapidly agencies for this care are increasing in connection with many institutions for the insane. The excellent work done by the forty-one legally appointed visitors to the State hospitals is most interestingly told in their reports under the headings of their respective hospitals. No better method could have been devised to interest public-spirited and philanthropic persons in the institutions in their neighborhoods.

*Bibliothèque de Psychologie Expérimentale et de Métapsychie.* Directeur, RAYMOND MEUNIER. (Paris: Bloud et cie.)

As a result possibly of the success that has attended the series of volumes edited by Dr. Toulouse under the title of *Bibliothèque internationale de psychologie expérimentale*, it has been decided to publish the present series of brochures, eight of which lie before us. The volumes are considerably less ambitious, and are of correspondingly less scientific value, than those of Toulouse's series, though they would appear to be addressed to a similarly wide class ("professors, doctors, students, and cultivated laymen"). The scope of them is broader, in that the so-called "psychical sciences" are included. Up to the present some four and twenty volumes have been advertised, by different authors. The value of the different units varies considerably, as will presently be indicated; this is, of course, almost always the case in a heterogeneous collection. Each unit costs 1 fr. 50 c., and comprises about 100 pages.

No. 1. *Les Hallucinations Télépathiques.* By N. VASCHIDE.

This is a valuable and critical consideration of the subject of telepathic hallucinations. The author has collected a large number of independent facts from personal friends and acquaintances. These concern 740 instances of visual hallucination, 198 of auditory, 55 of olfactory, and 18 of tactile. His conclusions contradict the well-known ones formulated by Gurney, Myers, and Podmore, and he attributes this to the lesser reliability of the observations collected by these authors from strangers. He sees no reason to admit the existence of thought transmission or telepathy, and gives an analysis of the exact mental state under which such illusions arise, with the causes productive of them.

No. 2. *Le Spiritisme dans ses Rapports avec la Folie.* By MARCEL VIOLETT.

This volume is especially recommended to readers of this journal, for it deals with a problem particularly prominent in America, namely, the part played in the production of mental disorder by spiritism (often incorrectly termed spiritualism in English). The author sketches various types of mental disequilibrium, and shows how such persons often instinctively seek the marvelous, the unreal, and the bizarre. These tendencies are only too greatly pandered to by the apostles of spiritism, frequently with disastrous results. The author relates in striking examples the mode of development of various hallucinations and delusions based on this mental trend.

No. 3. *L'Audition Morbide.* By A. MARIE.

This excellent volume deals with the importance of defects of hearing in relation to general mentality. The part hypo-acusia plays in connection with defects of attention is so important that it should always be as far as possible remedied before any re-educative process is undertaken. Hyper-acusia is then discussed and its importance in the production of hallucinations and delusions pointed out. A good account of some of the pseudo-



æsthesias (particularly colored audition) is given; and last, not least, a full bibliography of the whole subject.

No. 4. *Les Préjugés sur la Folie*. By PRINCESS LUBOMIRSKA.

Five popular prejudices concerning insanity are here considered: the supernatural origin of insanity, the external appearance of lunatics, the contagiousness, the incurability, and the danger of insanity. These are described in a popular and sympathetic way and the facts on the subject oriented in their proper perspective.

No. 5. *La Pathologie de l'Attention*. By N. VASCHIDE and RAYMOND MEUNIER.

This difficult problem is here dealt with in a rather one-sided and superficial manner. Most of the valuable recent work on the subject carried out in Germany is not referred to. The pathological variations of attention are grouped under three headings: defect, excess, and modification (hypo-prosexia, hyperprosexia, and paraprosexia). The all important relation of the affective life of the individual to these variations is very inadequately dealt with.

No. 7-8. *Le Hachich, Essai sur la Psychologie des Paradis Ephémères*. By RAYMOND MEUNIER.

Meunier, who has experimented much with haschisch, gives here a detailed review of its physiological and pharmacological features, appends an excellent bibliography. The most interesting part of the volume is that devoted to the therapeutic aspects. Meunier is opposed to the use of the drug in the treatment of insanity or of the various toxic deliria in which it has been employed, particularly in England. He strongly recommends, however, that it be used in cases of hysteria and allied states, in which it has a double value. First it increases the suggestibility of the patient and so permits the employment of psycho-therapeutic treatment in patients refractory to hypnotism or waking suggestion, and secondly it often reveals suppressed mental trends and deliria, the study of which is of the greatest value in prognosis (and, the reviewer might add, in treatment).

No. 9. *L'Evolution Psychique de l'Enfant*. By H. BOUQUET.

Bouquet gives here a conventional and rather superficial account of the development in the child of the various mental processes. The volume is interestingly written, but contains nothing not already generally known. No book can contribute much to our understanding of the psychological evolution of the child that ignores the psycho-sexual aspect so completely as this does.

No. 10. *Travail et Folie. Influences Professionnelles sur l'Étiologie Psychopathique*. By A. MARIE and R. MARTIAL.

After some preliminary remarks on the gradual evolution of medicine, and particularly of psychiatry, towards sociology, the authors proceed to discuss at length the influence of different professions in the evolution of

the psychoses. The volume is very documented and detailed, and the conclusions are not sufficiently definite to be of very great general interest. The authors lay stress on the special frequency of general paralysis amongst workmen.

ERNEST JONES (Toronto).

*Les Folies Raisonantes. Le Délire d'Interprétation.* By SÉRIEUX and CAPGRAS. (Paris: Alcan, 1909.)

This is certainly one of the most valuable works that has issued from the French School of Psychiatry for many years. It is distinguished by the lucidity of its style and argument, by its thorough attention to detail and the clearness of its arrangement. It contains little that is really new, but is a valuable exposition of the subject of paranoia from the French point of view.

The authors sharply distinguish paranoia from dementia paranoïdes on the lines generally accepted. To the reviewer there always seems something artificially schematic in the accounts generally given of this distinction, valid though it may perhaps be; also here the authors give an exaggerated idea of the ease with which it may be made in practice. The main subject of the book, the "delusional interpretation," is characterized by the following traits: (1) the multiplicity and organization of delusional interpretations; (2) the absence or penuria of hallucinations, their contingency; (3) the persistence of lucidity and of mental activity; (4) the evolution by progressive extension of the interpretations; (5) incurability without terminal dementia. The basis of the affection is the false interpretation of a true experience, and the subsequent working-up on strictly logical lines of an elaborate system. There is no diminution of mental activity, merely a deviation or perversion of it. As the authors wittily express it, "la paranoia est en quelque sorte pour l'état normal ce qu'est le paradoxe au regard de la vérité."

This description is, of course, the classical one of paranoia, but the authors go further and subdivide this into two: (1) le délire d'interprétation, and (2) le délire de revendication. The latter class includes the cases in which ideas of revenge and persecution play the predominating rôle. The main thesis of the book is the legitimacy of separating these two classes, a proceeding to which on purely clinical grounds there seems no objection. The former group is then described in careful detail and the different clinical types that occur in it are excellently expounded.

An interesting, and on the whole adequate, historical account of the literature is given. Here the authors commit the invariable French fault of magnifying the perspective of the work done by their country. The work of all other countries is dismissed in about half the space devoted to French writings; one reference in English is given to sixty-five in French. In all justice it should, however, be said that the account of German teachings, condensed as it is, is admirably oriented and contains all the essentials.

The book may be warmly recommended as being well worth perusal by every psychiatrist who wishes to keep in touch with the trend of modern development.

ERNEST JONES (Toronto).

*Diseases of the Nervous System for the General Practitioner and Student.*

By ALFRED GORDON, A. M., M. D., etc. (Philadelphia: P. Blakiston's Son & Co., 1908.)

The author states in the preface that in preparing this book for the medical public he has had in view chiefly the general practitioner and the student, and that it has been his aim to give them a plain and practical account of diseases of the nervous system.

The author's ambition is a laudable one, but we fear his readers will still wish for some "plain and practical" work notwithstanding his efforts to supply one.

In many respects Dr. Gordon has succeeded in contributing in his book some things of value to those who seek for light on neurological problems, but these contributions are hidden too often in a mass of carelessly put together and poorly arranged statements.

Much that the author says is in such a condensed or fragmentary form that it is of little practical value.

The reader who is searching for plain and practical directions to aid in the diagnosis of a possible case of multiple neuritis with mental symptoms will find little satisfaction from the following brief reference to the possible occurrence of mental symptoms on page 275: "Finally psychic disturbances are sometimes observed. This is the so-called Korsakoff's psychosis. They consist chiefly of confusion with illusions of identity, loss of orientation, of memory. Delirium and hallucinations may also be present." This is certainly neither a plain nor practical account of a somewhat common psychosis even for a work on neurology.

While the general practitioner or student would not be expected to resort to examination of the spinal fluid for diagnostic purposes, surely a work of the kind under consideration should mention the procedure in treating of tabes or paresis. Chapter twenty, comprising ten pages only, treats of paresis or general paralysis of the insane.

The brevity of the chapter alone would lead the reader to expect but little more than a mere hasty sketch of the disease—and such is the fact. The author starts out with the assertion that "it (paresis) is a post-syphilitic disease." Is he prepared to sustain such a surprising assertion? Has he never seen cases of paresis with syphilis absolutely out of the question from an etiological point of view?

The clinical pictures in this chapter, as indeed in many others in the book, lack much in completeness, and the account of the pathological findings is by no means as full as it might be.

On page 422 the author has introduced an address delivered before a medical society on the "relation of accidents to functional nervous disease and psychoses; medico-legal considerations." This address is not in the

same style as the remainder of the book and detracts from rather than adds to the general value of the work.

If the author ever makes upon the stand some of the answers which he says he will give in the course of this medico-legal discourse he may find that there are other views. The bald statement that "when, instead of recovery, dementia develops (after cerebral trauma), there is always an underlying basis in the form of alcoholism, syphilis, epilepsy or arteriosclerosis" is contrary to a very large number of carefully made observations.

There are numerous illustrations in the work, but the majority of them are borrowed from other works.

*Bier's Hyperæmic Treatment in Surgery, Medicine and the Specialties: A Manual of its Practical Application.* By WILLY MEYER, M. D., and Professor Dr. VICTOR SCHMIEDEN. (Philadelphia and London: W. B. Saunders Co., 1908.)

Dr. Meyer, one of the authors of this work, has been a disciple of Bier and has used his methods of treatment for some fifteen years in New York, while Professor Schmieden has had the privilege of working in conjunction with Professor Bier as his assistant in the University of Berlin.

The work is one to which it is impossible to do justice in the limits of an ordinary review; it must be read, not only to obtain a correct view of the theories upon which Bier's treatment is based, but for a clear comprehension of his many and ingenious applications of the treatment (local hyperæmia) and the appliances which have been devised for special purposes of treatment.

Inflammation, the authors say, does not from a physiologic point of view represent in itself a diseased condition, but is a phenomenon indicating the body's attempt to resist a deleterious invasion. It naturally follows, therefore, that a process which is the natural attempt to resist the invasion of disease should not be fought but on the contrary aided and encouraged. The aim of Bier, therefore, is to "increase this beneficent inflammatory hyperæmia." According to Bier it is a mistake to order the use of an ice bag at the beginning of an inflammation, but on the contrary one should attempt to increase artificially the redness, swelling and heat, three of the four cardinal symptoms of acute inflammation. The methods by which this artificial increase of the conditions associated with inflammation is produced are three: 1. By means of an elastic bandage or band. 2. By means of cupping glasses. 3. By means of hot air. The first and second produce passive or venous hyperæmia, the third active or arterial hyperæmia.

In applying these various means and particularly as to the first, it must be borne in mind as of paramount importance that "*the blood must continue to circulate, there must never be a stasis of blood.*"

The work is a most interesting one, and the authors deserve the thanks of the profession for putting into available and practical form the teach-



ings of the originator of the method. It must be read and studied to be appreciated.

*The Practitioner's Medical Dictionary. An Illustrated Dictionary of Medicine and Allied Subjects, Including All the Words and Phrases Generally Used in Medicine, with Their Proper Pronunciation, Derivation and Spelling.* By GEORGE M. GOULD, A. M., M. D. (Philadelphia: P. Blakiston's Son & Co.)

To attempt a critical review or analysis of a dictionary would be an almost hopeless task. In the present instance such a task is unnecessary. Dr. Gould's dictionaries have an established fame from which nothing can detract, and to which but little could be added by any encomiums of the reviewer.

The present volume is a very convenient work. It comprises over a thousand pages, but is printed on thin paper and is not therefore bulky and inconvenient. It is bound in leather with flexible covers, and will be found to be a convenient and useful addition to the practitioner's library table.

*Illustrations of the Gross Morbid Anatomy of the Brain in the Insane. A Selection of Seventy-five Plates Showing the Pathological Conditions Found in Post-Mortem Examinations of the Brain in Mental Disease.* By I. M. BLACKBURN, M. D., Pathologist to the Government Hospital for the Insane, Washington, D. C., etc. (Washington: Government Printing Office, 1908.)

Dr. Blackburn has given to the profession in this beautifully executed series of photographs a most valuable contribution. He presents in this series of seventy-five plates accurate representations of the gross conditions found, in a form which permits not only the study of the plates in question but their comparison with conditions found in other cases.

No attempt is made, owing to the limitations of the work, to give a clinical history of the cases, or to connect the lesions portrayed with the symptoms observed during life. Neither are the plates presented as showing the essential morbid anatomy of any form of mental disease except paresis, and possibly senile insanity and arterio-sclerotic insanity.

We congratulate Dr. Blackburn upon the completion of a work upon which he has spent many months of conscientious labor.

*Insomnia and Nerve Strain.* By HENRY S. UPSON, M. D., etc. (New York and London: G. P. Putnam's Sons, 1908.)

The author tells us in his preface that "among the insanities some groups due to changes in the organ of the mind are understood in course and nature. Others, called psychoses, aberrations that come alike to young and old, mysterious legacies, have all the terrors that attach to mystery and occur in forms of strange and violent contrast." This would seem to mean that he regards some forms of insanity as psychoses and

some forms as something else. What the distinction and why the difference in designation he does not, however, make plain.

He states that the present attitude of the medical profession and the public toward the psychoses is almost one of Mahometan fatalism. This may be true as far as the public is concerned, but the signs of the times appear to us to indicate an opposite state of mind as regards the medical profession. Never has there been a period in which more active interest has been shown in the study, treatment and prevention of insanity. Dr. Upson appears to have reached the conclusion that the general professional belief is that insanity, with rare exceptions, is a disease without lesion. On the contrary we think the consensus of professional opinion is that insanity is but a symptom of some physical disturbance either primarily of the brain, or in its results affecting the brain and its functions. Indeed there are some who believe that the too general acceptance of a physical cause for mental disturbance has resulted in overlooking the occasional and important mental factors in the etiology of the psychoses.

The book is written with apparently two objects in view, one to announce the author's discovery of the "vaso-neural circuit," the other to emphasize the influence of disease or malformation of the teeth, impaction, alveolar abscess and the like in the causation of various forms of insanity, and the care of these psychoses by dental manipulation and treatment.

The author has done well to call attention to the possible influence of dental maladies in the etiology of mental disturbance, and something of value will, we trust, flow from his observations. But one can but wish that in his little work he had given less time and space to the promulgation of his theories and more to a better clinical analysis of his cases. Such a course will carry more conviction than the recital of a series of cases labeled mania, dementia præcox, and what not, with no clear statement of the origin, course and treatment of the cases.



## AMERICAN JOURNAL OF INSANITY

### AN ANALYSIS OF PSYCHOSES ASSOCIATED WITH GRAVES' DISEASE.\*

By FREDERIC H. PACKARD, M. D.,

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The not infrequent occurrence of a psychosis in the course of Graves' disease gives rise to such questions as: Is there a relation between the Graves' disease and the psychosis? If so, what is that relation? Do the psychoses occurring under such circumstances correspond in character to the various recognized psychoses, or do they show such characteristics as should entitle them to special classification? What is the prognosis in such cases? etc.

With the hope of answering these and some other questions I have undertaken an analysis of 82 cases presenting psychoses associated with Graves' disease. A few cases were patients at the McLean Hospital; most of the cases were collected from the literature.

As is well known, the diagnosis of Graves' disease is frequently made without the presence of all the classical physical symptoms, and frequently when the symptoms are very slight, so much so at times as to make the diagnosis doubtful. Among the cases to be here considered, however, the physical symptoms were in each instance tolerably well marked.

The interest in Graves' disease has for many years been considerable, and its frequent association with a psychosis has been noted. Many articles with reference to its etiology, and especially with reference to its treatment, have been written, and have aroused considerable interest. Many of the authors, however, have been general medical men or surgeons, and the psychiatric

\* Read at the sixty-fifth annual meeting of the American Medico-Psychological Association, Atlantic City, N. J., June 1-4, 1909.



side of the question has been comparatively neglected. For many years such psychoses as were observed were considered to be the direct result of the Graves' disease, and have often been classified as Graves' psychosis. In text-books of psychiatry usually little or nothing is to be found concerning this subject. More recently attempts have been made to answer some of the questions above, and the analyses of a few cases here and there have given rise to some doubt as to the direct relationship between Graves' disease and the psychoses associated with it. Numerous opinions have been expressed, some to the effect that both the Graves' disease and the psychoses had a common etiology based upon auto-intoxication or inherited degeneracy; and some, recognizing the similarity between many of the psychoses seen with Graves' disease and in manic-depressive insanity, have gone so far as to suggest that in all cases of manic-depressive insanity we have as an etiological factor some disease of the thyroid. It will not be attempted to discuss these various theories, but merely to present an analysis of the cases collected and to draw some conclusions from the results.

The present collection of 82 cases includes 20 men and 62 women. In dealing with them, the fact was at once striking that of the 54 cases in which the heredity was stated, 63% showed a heredity for mental disease. In six cases there was also heredity for Graves' disease. In 26 cases, 32% of the total number, there were evidences of a neurotic or psychopathic make-up, and this figure is probably much too low, since in many cases no sufficient data were given to allow one to judge concerning this point. In this same connection is to be noted that 12 cases, 15% of the total number, had had psychoses previous to the onset of any objective symptoms of Graves' disease. Two had had more than one previous attack; in one case a psychosis had preceded the Graves' disease by two years, in one by eighteen years, in one by seventeen years, in two by five years, in one by four years, and in the remaining six the exact time was not given.

The age at onset of the Graves' disease varied from 18 to 63 years, the average being 33.9 years. Likewise the age at onset of the psychoses showed a wide variation, 18 to 66 years, the average being 35.8 years. That is, the psychosis came, on an average, about two years after the Graves' disease.

A more careful examination of the intervals gives some interesting information. In 22 cases the interval was not given. In 32 cases the onset of the Graves' disease and the psychosis was practically simultaneous. Among the remaining cases a one-year interval was noted in three, a two-year interval in five, a three-year interval in eight, a five-year interval in four, a six-year interval in one, an eight-year interval in two, and a ten-, eleven-, twelve-, thirteen- and twenty-year interval in one case each. That is, in 32 cases, or 52% where the interval was known, the onset of the Graves' disease and the psychosis was practically simultaneous, in the remaining 48% the curve of the intervals rises rather quickly to three years, and then falls again more slowly. This at once suggests the question of whether or not we are dealing with two different kinds of cases. A further analysis shows that 85% of the simultaneous cases had a bad heredity, as against 36% of the cases where the psychosis was later in onset, or from the opposite standpoint, only 15% of the simultaneous cases had a good heredity, while a good heredity was found in 36% of the cases with a later onset of the psychosis. It is also interesting to note that 50% of the simultaneous cases had a bad make-up, while only 26% of the cases with later onset of the psychosis had a bad make-up. Again, 19% of the simultaneous cases had had previous psychoses, while only 11% of the cases with later onset of the psychosis had had previous attacks. In regard to the various symptoms noted in the psychoses of the two classes, i.e., the simultaneous cases and those with later onset of the psychoses, there is not sufficient variation for significance.

If we turn next to a consideration of the more striking symptoms shown in the psychoses of all cases, we find that there was a depression in 53 cases, 65%; excitement in 51 cases, 62%; delusions in 40 cases, 49%; apprehensiveness in 37 cases, 45%; irritability in 33 cases, 40%; exhilaration in 23 cases, 28%; hallucinations in 23 cases, 28%; incoherence in 13 cases, 16%; delirium in 11 cases, 13%; seizures in 8 cases, 10%; memory defect in 7 cases, 9%; paraphasia in 3 cases, 4%; phobia in 3 cases, 4%. (Cf. the table, p [8a].)

A study of the depressions shows that at some stage of the psychoses 23% of them showed exhilaration, and what is more striking, 58% and 59% of them showed, respectively, excitement and

apprehensiveness. Such a combination of symptoms, while often seen in cases at the involution period, is rather striking in such a large percentage of cases whose average age is about 35 years. 51% of the depressions were deluded, which is perhaps of no great significance. 45% of the depressions were notably irritable, perhaps a larger percentage than would be seen in depressions in general.

Of the 23 cases showing exhilaration, 52% at some time in the course of the psychoses were also depressed. This leaves a comparatively small percentage of the whole number, only about 12%, who showed only an exhilaration without a depression. 100% of the 23 exhilarations showed excitement; i. e., if we may be allowed to speak in terms of manic-depressive insanity, we found among the depressions a great tendency to mixed states characterized by depression with motor activity, whereas among the exhilarations we found no tendency to the opposite kind of a mixed state—manic stupor—exhilaration without motor activity. Furthermore, there was a high percentage of irritability, that symptom being present in 61%.

From the standpoint of excitement, of the 51 cases showing this symptom, 61% were depressed, and 45% exhilarated, again emphasizing the large number of mixed states where depression was associated with motor activity. Under this heading we again notice a high percentage of irritability, 51%, as might perhaps be expected. Apprehensiveness occurred in 43%, and delusions in 48%. These figures are mentioned because they occur among the higher percentages, rather than because of any special intrinsic significance.

Considering the 33 cases with irritability, we may briefly note that 79% of them were excited and 66% depressed, again indicating the prominence of these symptoms from another viewpoint.

From the standpoint of apprehensiveness, 86% of the 37 cases showing this symptom were, as might be expected, depressed. 59% were excited, 54% deluded, and under this heading we for the first time find hallucinations rising to a large percentage, viz.; 41%.

Twenty-three cases, 28% of the total number, had hallucinations, mostly of hearing, some of sight, and what is perhaps particularly striking is that 70% of these cases were depressed. Otherwise nothing special stands out under this head.

Forty of the cases had delusions, 68% of these were depressed, 62% excited, 62% apprehensive, 50% irritable. This seems to emphasize the prominence of apprehensive delusions.

The 13 cases showing marked incoherence showed also, as may be expected, a large percentage of excitement and exhilaration, with 62% irritable.

Only 11 cases had a marked delirium, and in this connection only two high percentages are to be noted: 91% were excited, and what is more significant, 82% died, the highest per cent of deaths recorded under any heading.

The number of cases with memory defect, seven, is too small to make an analysis of any value. It is perhaps interesting to note that two were under 30 years of age, one was 32 and had had seizures, one was 43 and had become demented in about six months, one was 48 and was paraphasic; the other two were 43 and 46 years of age, respectively, showing that the memory defect could not be ascribed to senility, and in half of them at least there was slight probability of arteriosclerosis.

Paraphasia was noted in only three cases; all were decidedly irritable. No other characteristic was common to more than one case.

Phobias were also noted in three cases, and they were simply apprehensive and depressed.

Eight cases had had seizures; four were exhilarated and four depressed. 87% were excited. The ages here again indicate that on the whole they were rather young; thus two were under 20, four were under 35, one was 42, and one 66 years of age. Five of these cases died within a comparatively short time, the second highest percentage of deaths noted under any heading.

When it comes to a consideration of the outcome, the great majority of cases passed from observation in an unimproved condition and the further course is unfortunately not known. Four cases improved; they had all been excited and irritable. Three of them had been both exhilarated and depressed. In one case the mood was not mentioned as either exhilarated or depressed, but improvement followed after two years of excitement. In three other cases the exact durations were not given. The ages in these cases which improved were 18, 20, 31, and 35 years.

Ten cases recovered from their psychoses; eight had shown a



depression with excitement, one an exhilaration with excitement, and one an exhilaration followed by a depression with excitement. In two of these recovered cases the Graves' disease and the psychoses had come on practically simultaneously as the result of taking thyroid, and in both cases the physical symptoms had disappeared on the withdrawal of the drug. In the remaining eight cases the mental symptoms disappeared without corresponding disappearance of the physical symptoms. In three cases there was no improvement noted in the physical symptoms, in five cases a partial improvement. The ages of these recovered cases were 23, 24, 27, 30, 37, 43, 53, and in the three remaining cases the age was not given. The hereditary data in these cases indicated little. In three there was a bad heredity, in four a good heredity, and in three the data were wanting.

Only two cases were known to have demented. Both began with apprehensive depressions and one became delirious. The ages were 26 and 43. 25 cases, or 30% of the total number, died under observation, quite a large proportion considering the fact that so many passed from observation in a comparatively short time. 88% of them had been excited, and under the heading of excitement we noted that 43% of the excitements died, the third highest mortality noted under any heading, the highest being, as above noted, 82% of the delirious cases, and the second highest, 75% of the cases with seizures. 52% of the deaths had shown depressions and 32% exhilarations; 36% had been apprehensive, and 24% had had seizures. Among those that died the average duration of the psychosis was thirteen weeks, the median duration was six weeks. Four cases died within a week, four within two weeks, three within a month, six within two months, three within three months, one within a year, and one within two years. In three cases the duration was not known. The ages varied from 18 to 62 years, the average being 35 years. Three were under 20, five under 30, five under 40, seven under 50, one under 60, three under 70. In regard to heredity among the cases described, the figures are too small to be of much account. In ten of the 25 information was wanting; in the remaining 15, ten had a bad heredity and five a good heredity.

Such, then, are some of the most important statistical data gleaned from the analysis. In order that anyone may make use

of the figures for his own deductions, the accompanying table is subjoined.

**CORRELATION OF SYMPTOMS IN 82 CASES OF GRAVES' DISEASE.**

[Per cent of cases showing the symptoms given in vertical column, also characterized by the symptoms in horizontal column below.]

	Total number of cases showing—	Per cent of cases showing—	Depression.	Exhilaration.	Excitement.	Irritability.	Apprehensiveness.	Hallucinations.	Delusions.	Incoherence.	Delirium.	Memory defect.	Paraphasia.	Phobia.	Seizures.	Improved.	Recovered.	Demented.	Died.
Depression.....	53	65	100	23	58	40	50	30	51	11	8	8	2	4	8	6	15	4	26
Exhilaration.....	23	28	52	100	100	61	43	30	48	39	17	9	4	0	13	13	13	0	35
Excitement.....	51	62	61	45	100	51	43	24	48	20	20	6	2	0	14	8	16	2	43
Irritability.....	33	40	66	42	79	100	39	23	65	26	16	13	6	0	19	13	10	3	33
Apprehensiveness.....	37	45	86	27	59	32	100	41	54	11	14	14	3	8	5	5	14	5	24
Hallucinations.....	23	28	70	30	52	30	65	100	70	9	4	9	0	0	9	4	13		17
Delusions.....	40	49	68	27	62	50	52	40	100	17	12	15	2	0	10	5	12	5	37
Incoherence.....	13	16	46	69	77	62	31	15	54	100	23	15	8	0	23	15	23	0	23
Delirium.....	11	13	36	36	91	36	45	9	45	27	100	0	0	0	9	0	0	9	82
Memory defect.....	7	9	57	29	43	57	71	29	86	29	0	100	14	0	14	0	0	14	14
Paraphasia.....	3	4	33	33	33	66	33	0	33	33	0	33	100	0	0	0	0	0	33
Phobia.....	3	4	66	0	0	0	100	0	0	0	0	0	0	100	0	0	0	0	0
Seizures.....	8	10	50	60	87	75	25	25	50	37	12	12	0	0	100	12	0	0	75
Improved.....	4	5	75	75	100	100	50	25	50	50	0	0	0	0	25	100	0	0	0
Recovered.....	10	12	80	30	80	30	50	30	50	30	0	0	0	0	0	0	100	0	0
Demented.....	2	3	100	0	50	50	100	0	100	0	50	50	0	0	0	0	0	100	0
Died.....	25	30	52	32	88	44	36	16	60	12	36	4	4	0	24	0	0	0	100

Examples: Of the 53 cases, 65% showing depression, 100% of course showed depression; 23% exhilaration; 58% excitement; 40% irritability, etc.

The results are not only difficult of interpretation, but in some instances to a certain extent contradictory, and undoubtedly capable of different interpretations. The following are what seem to the writer to be among the more probable.

As is already noted, there is a heredity for mental disease in 63% of the cases, which is undoubtedly high; even in manic-depressive insanity, where we find the largest hereditary predisposition, according to Kraepelin, it is present in only 80%. Since we are here considering the relation of the psychoses to a physical disease, we can perhaps best compare the hereditary statistics with those of general paralysis, since we have there also a psychosis associated with a definite physical change. The statistics for mental hered-

ity in general paralysis vary greatly according to different men. Kraepelin finds a heredity in about 50% of his cases; Pilcz in only about 18% of his cases, and a fair average may be about 40%. On this basis it seems fair to assume that the mental heredity is strikingly large in our cases. With a mental heredity, then, in 63% of the cases, and a psychopathic or neuropathic make-up in 32 of the cases, together with the fact that 15% of them have previously had a psychosis, it does not seem unreasonable to conclude that we are dealing with individuals in whom a psychosis might have been expected to develop even in the absence of Graves' disease, perhaps without any tangible cause, or at least with only such causes as appear to be of etiological significance in the ordinary functional psychoses. That is, the Graves' disease is only an exciting cause, although perhaps an especially strong one.

At first glance, the fact that in 32 cases the onset of the psychosis was practically simultaneous with the onset of the Graves' disease, might be taken to indicate that etiological relationship was much stronger. It is among these simultaneous cases, however, that we find the highest predisposition to mental disease; 85% of them showing bad heredity, as against 36% of the cases with later onset of the psychosis; and only 15% of the simultaneous cases show a good heredity, as against 36% with good heredity among those with a later onset of the psychosis. Again, it will be remembered that 19% of the simultaneous cases had had previous attacks, as against 11% of the cases with the later onset.

The fact that, among four improved and ten recovered cases, the improvements and recoveries from the psychoses in all but two instances took place without any or only slight improvement in the symptoms of Graves' disease, argues against any fundamental relation between Graves' disease and the psychosis. The two exceptions were cases where thyroid had been taken and where both the physical and mental symptoms disappeared on withdrawal of the drug. The inference to be drawn from these two cases is perhaps somewhat contradictory to the above, and seems to indicate a very definite relation between cause and effect, but after all we are here dealing with an artificially produced condition.

Unfortunately the statistics of any considerable number of cases are not at my command concerning the proportion of cases with

Graves' disease which never develop a psychosis. It seems very probable that many cases, at least, go for years without psychoses, and even among the cases here considered the interval was in several instances from ten to twenty years. Syllaba, in a paper on the prognosis in Graves' disease, while not considering the psychiatric side to any extent, yet notes in a general way improvement and recovery in 62% of 50 cases which he followed throughout their lifetime.

In view of the facts already presented it would seem that in a majority of cases where a psychosis does develop, the time of origin of the psychosis after the onset of the Graves' disease is somewhat proportional to the predisposition of the individual to insanity, the most susceptible losing their mental balance at once. We must, of course, acknowledge that the strength and quantity of toxins, if such be present, may vary in different cases and have its own significance. Objectively, however, the physical and mental symptoms are not always proportional.

Finally, we must consider the possibility of common etiology for both physical and mental symptoms. Until we know more about the etiology of Graves' disease and the etiology of abnormal mental conditions, this question can hardly be settled. In many cases the course of the physical and mental symptoms is sufficiently independent to make it at least questionable.

Before leaving the etiological considerations attention may be called to the fact that among general medical men there is a tendency to consider mental grief and worry as a possible etiological factor in Graves' disease. In the cases here considered, for the most part no such condition preceded the Graves' disease, but accompanied or followed it.

If we turn next to a consideration of the mental picture in the psychoses associated with Graves' disease, we find a predominance of certain symptoms, depression, apprehensiveness, irritability, and excitement, characteristics which are usually found to a lesser degree in the sane with Graves' disease. On the whole we find that the mental pictures may vary greatly; there were many cases essentially depressions, some essentially exhilarations and vice versa, others showed in their course depressions followed by exhilarations, and still others were essentially delusional conditions. There were some cases of acute delirium; practically as much variation as is



found in the functional psychoses not associated with Graves' disease. It is interesting to note that only two cases demented, and that on the whole the course of the psychoses, apart from the prominence of hallucinations, does not resemble that of dementia præcox. In one of my own cases, however, which has had three acute attacks with perfect recovery, so as to resume her work as a school-teacher in the intervals, the mental picture was strikingly dementia præcox like. Not only were hallucinations prominent, but the mood was more or less apathetic, autochthonous ideas and ideas of reference were prominent to a marked degree, and there were many impulsive acts, and other phenomena of disintegration of the personality. The course alone was not typical, and now after about ten years the patient is in no way demented. A large number of the cases were depressed and a greater part of the depressions showed a motor activity instead of a retardation. Apprehensiveness and irritability were unusually frequent, and hallucinations were much more common than is usual in depressions. The prominence of this latter symptom suggests the possibility of strong toxic influences.

With regard to the outcome, while some cases improved and more recovered, on the whole the prognosis of the mental symptoms associated with Graves' disease seems to be more serious. In many instances the Graves' disease seems to furnish enough to produce at least chronicity, although few dementias. The rapidity with which death followed the onset in many cases was quite striking. In these cases delirium and excitement were conspicuous and the death rate much larger than in the ordinary manic excitements, even of similar severity, and it seemed much more difficult to cope with the exhaustion. It would for this reason seem probable that in addition to the exhaustion from the excitement there is some direct toxic influence from the Graves' disease which is of considerable prognostic significance.

I would conclude briefly that in many cases Graves' disease is rather an exciting than a fundamental cause of the psychosis, and that the psychoses themselves are not essentially different from the ordinary recognized functional psychoses, except as modified by the prominence of those symptoms seen to a lesser degree in the sane with Graves' disease. The prognosis is on the whole much more grave and is especially bad in the delirious cases.

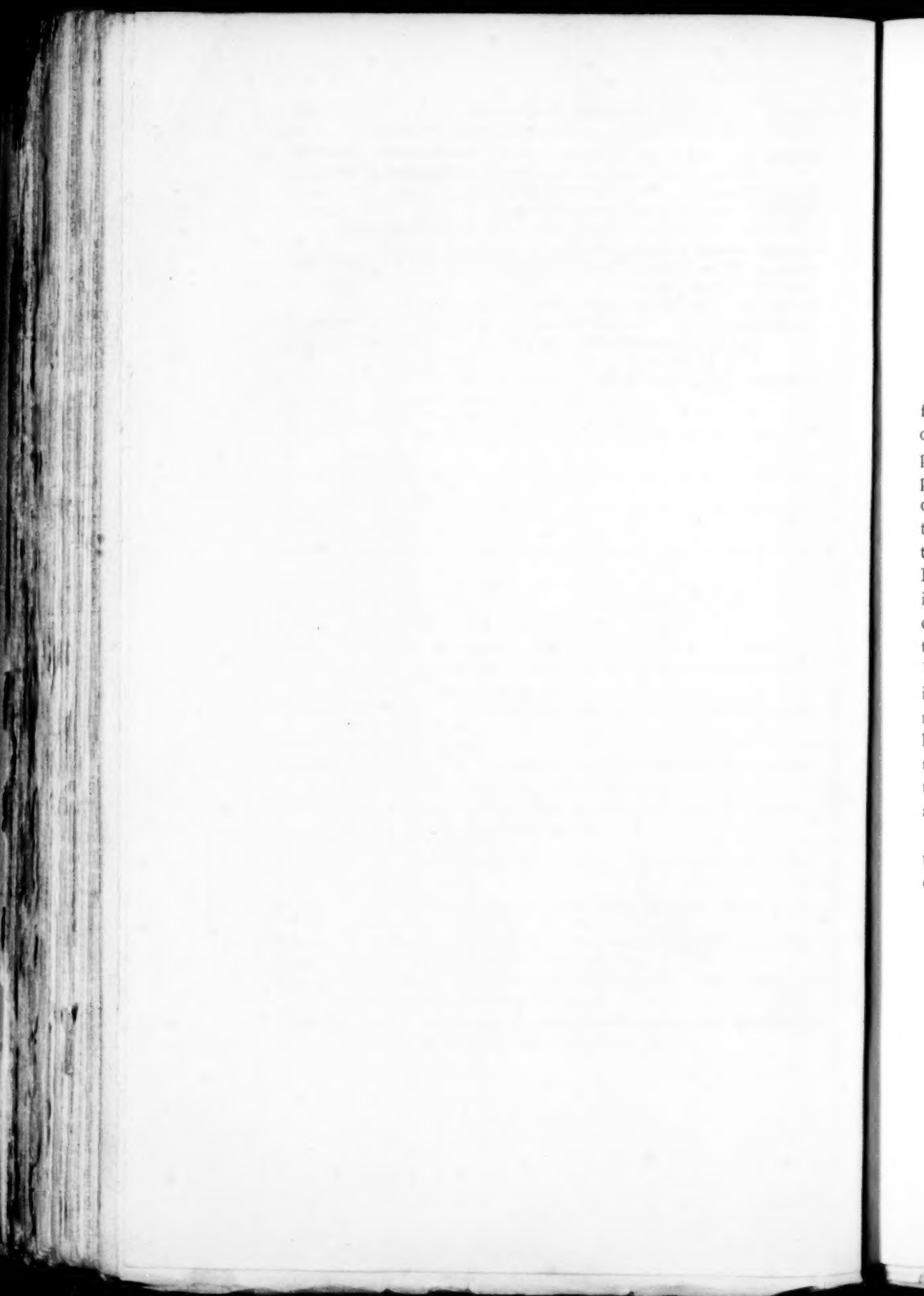
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## PSYCHO-ANALYTIC NOTES ON A CASE OF HYPOMANIA.

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The psycho-analytic methods developed by Freud in the past fifteen years have been singularly neglected by workers outside of German-speaking countries, as is illustrated by the fact that no psycho-analysis carried out in any other country has up to the present been published. Yet these methods are unquestionably destined to have a far-reaching influence not only in the case of the psycho-neuroses but in much wider fields, and particularly in that of insanity. Already in dementia præcox Jung<sup>1</sup> has applied Freud's principles to the elucidation of the mental changes present in this obscure malady, and in spite of the great technical difficulties encountered has met with such brilliant success as greatly to encourage workers in this and allied spheres of investigation. Up to the present no psycho-analysis of a case of manic-depressive insanity has been recorded, for the only one published under that name, by Otto Gross,<sup>2</sup> was almost certainly, as Jung and others have pointed out, a case of dementia præcox. The same objection may be open as regards the case presently to be described, but in the writer's opinion the evidence seems here definitely to point against the diagnosis of dementia præcox.

Before detailing some of the results of the study carried out by the Freudian methods, I will first give an account of the case as observed on ordinary lines.

<sup>1</sup> Jung: *The Psychology of Dementia Præcox*. Translated by Peterson and Brill. *Journal of Nervous and Mental Disease*, Monograph Series, 1909. See also two excellent analyses by Brill, *Journ. of Abn. Psychol.*, Vol. III, p. 219, and *Amer. Journ. of Insanity*, Vol. LXVI, p. 53.

<sup>2</sup> Otto Gross: *Das Freud'sche Ideogenitätsmoment und seine Bedeutung im manisch-depressiven Irresein* (Kraepelin's). 1907.

*Previous History.*—The patient, S. T., is a woman aged 39. Her father died of pneumonia at the age of 55. Her mother, aged 78, is still alive; she is said to have suffered from "hysteria." One brother died of an aortic aneurism at the age of 35; two others are alive and well. There was no instance of insanity known in the family.

The patient was brought up in the country, in a Northern American State, and was at home until she married. At school she was unusually quick in learning. She began to menstruate at the age of 14, and had no dysmenorrhœa. She married at the age of 19, and in the next year bore a son, who is still alive and well. A year or two later she had a miscarriage; this was followed by pelvic complications, evidently of a septic nature, which kept her in bed for five months. In 1892, when aged 23, she underwent double ovariectomy. This operation had no effect on her menstruation or on her sexual feeling. Ill health persisted, and she suffered much from painful sensations in the top of the head. Three years later her uterus was curetted for this. A period of depression followed and she was given electrical treatment for six months. In the succeeding years she was well for varying periods, and in the intervals suffered much from weakness, malaise and pelvic pain. In the summer of 1904 her health again badly broke down, and she was in hospital for three months of that year and for six months of the next. In June of the latter year (1905) she had a broad ligament cyst removed; it was at the time noted that the ovariectomy had been complete. Since this last operation she has rarely been free from sleeplessness, lack of appetite and other symptoms, though these greatly varied in intensity from one time to another. Two months before her admission to the asylum a marked exacerbation of them took place, as will presently be detailed.

At different times during her married life she had entered into irregular relations with men, which lasted for varying periods. Her husband, who was a commercial traveller, was aware of this. He attributed it to irresponsible eccentricity caused by her markedly erotic temperament, and took the view that his duty was to forgive, and, wherever possible, to guide her. His attitude towards his wife was one of exceptional patience and fondness,

and domestic scenes between them were rare and insignificant. It should be mentioned that the patient had always from a girl been religious, but only to a reasonable extent.

*Present Illness.*—For two months before admission the patient had been restless, irritable, depressed and excited, varying greatly in mood from one day to the next. She had conceived an aversion towards her husband and son, and thought they were conspiring to harm or destroy her. She imagined that various clergymen were in love with her, that people were discussing her reputation, and conspiring to injure it. Her food was being poisoned, and she refused to eat it. Electricity was being pumped up through the floor to hurt her, and there were strange odors in the room. The house was full of men and spirits. The front of the house was transparent, so that everything could be seen from the street.

She tried to throw herself out of the window, and to run out into the street undressed. She became violent, uttered loud screams, and had to be forcibly restrained. Throughout, however, she seemed to have considerable insight into her condition; she realized that her mind was sick and that she was going insane.

*First Admission.*—She was admitted to the asylum on January 30, 1907. From the note taken during her stay the following points may be added to the account given above. Her attention was easily gained, and was well maintained. There was no clouding of consciousness. She was well oriented. She cried readily. She was fretful and, later on, depressed. She made a good recovery and was discharged on March 27, 1907.

*Second Admission.*—The patient was readmitted on September 27, 1908, with the story of having suffered from a very similar attack to the previous one. The symptoms had developed only a week ago, and had ensued on another gynæcological operation to which she had recently been submitted. They began with considerable depression, which was soon followed by excitement. The same erotic delusions were present as on the previous occasion. She was exceedingly restless and excited, gesticulated wildly, swore, sang, wandered from room to room, and threw things out of the window. She would toss herself about in bed until she reached an ecstasy of excitement, banging the walls with her fists,



and so on. She would eat the most curious things, such as stove polish, etc. Her first act on being brought to the asylum was to smash a window pane with a chair.

*On examination* the patient was seen to be still in this excited condition. She was in continual movement, made frequent attempts to climb out of the window, constantly flourished her arms and declaimed at a high voice. Her hands, when she was not gesticulating, were busy crumpling or tearing fragments of paper. At times exacerbations of great violence occurred in which she needed restraint. Her hair was dishevelled, and her personal appearance neglected. Her expression was distinctly lascivious, though her behavior was never indecent.

On studying her logorrhœa one found that it consisted of a series of rapidly uttered words and short phrases, mostly related one to another by sound associations. The following are examples: "What a pretty tie. I wish I were tied to someone who was pure, and had pretty eyes. I'm fond of pretty eyes. Fond of lies. Not fond of the kind of lies I've been accused of. Oh yes, I was. There are different kinds of lies, lie up, lie down." The significance of the last words will be seen later. "I don't trust him. New York trusts. Roosevelt is all right. Except when he talks about race suicide. Bearing children is all very well when you have no bearing-down pains. There are too many panes in this window; I should like to open one." We see how prominent is the impulsive and rapid transition, along the most superficial associations, from idea to idea, so characteristic of the manic flight of ideas.

The patient was perfectly oriented in time, place and personality. She retained insight into her condition, knew exactly why she had been confined, and that she would soon be better and about again. After the early stage no hallucinations occurred, except of smell. Her delusions have been mentioned above, and will be discussed in the course of the analysis. Her memory was unimpaired, as was—so far as could be tested—her power of retention. There was no sense deficiency, no contraction of the visual fields or disturbance of sensibility, and no other stigmata of hysteria. Her judgment in everyday matters was sound, and there was no evidence of intellectual deterioration. No mannerisms, catalepsy or stereotypies were ever noted.

There was but little sleep for the first few days. The tongue was furred and rather dry. The pulse rate and temperature were slightly raised. There was much constipation and the appetite was at first very deficient. There were no abnormal physical signs in the nervous system.

*Course.*—The excitement gradually subsided, and in a couple of weeks had practically disappeared. Synchronously with this the delusions became less prominent, and the patient gradually realized the falsity of them. In January, 1909, she was allowed to go out on probation, and did so for a couple of days at a time at frequent intervals until her final discharge in April. Further details of the course of the case will be given in the analysis.

*Diagnosis.*—There are only three diagnoses that come into serious consideration, manic-depressive insanity, dementia paranoïdes, and hysteria. The last-named can with the greatest probability be excluded, on account of the absence of physical signs or symptoms of this malady, and the non-correspondence of the mental condition, either clinically or psychologically, with that characteristic of hysteria. The reactions were never infantile, there were no amnesias, aboulias or phobias, and the word-associations were not of the kind found in hysteria.

To exclude the diagnosis of dementia præcox is more difficult, especially as the thought of this malady is especially raised by the fact of the history extending so far back, by the chronicity of the symptoms with their occasional exacerbations, and by certain features of the delusions present. However, on the one hand there was none of the peculiar "shut-offness," or loss of contact with the immediate environment, that is the most constant accompaniment of dementia præcox, nor were there any somatopsychic perversions, stereotypies, verbigerations or mannerisms such as we might expect to find by the time the case had developed so far; on the other hand the alternation of depression and excitement, the vehemence of the latter manifestation, the logorrhœa, the suggestibility during the excited period, the retained insight into the condition, the morbidly sharp definition of the subsequent recollection of all the events in the illness, the form of association reactions, and the typical manic flight of ideas, all strongly go to show that we are dealing with a case of manic-depressive insanity.

As will presently be shown, the delusions that occurred bore a distinctly paranoid stamp. This feature may be found in a variety of psychoses, in general paralysis, dementia præcox, alcoholic "dementia," etc. It is becoming more and more doubtful whether true paranoia exists as a separate entity, and Specht<sup>1</sup> has recently advanced excellent reasons to show that a large number of cases in which this diagnosis has been made are really cases of chronic mania, i. e., of manic-depressive insanity.

*Psycho-Analytic Observations.*—Up to this point the case has been considered on strictly Kraepelinian lines, and the diagnosis arrived at by observing and weighing the import of the external objective manifestations of the malady. Of fundamental importance as this route is in teaching us so much about our cases, the grouping of them, the separation of one form from another, the outlook on prognosis and the general review of the disease, yet in its very merits lie its limitations. It definitely aims at giving us a conception of the disease *as seen from the outside*, in other words from the point of view of the clinical observer. It does not pretend to lead us to an appreciation of the morbid phenomena *as seen from the inside*. We thus never reach the patient's point of view, never realize what a given external manifestation represents to *him*, and thus never approach a true understanding of the meaning and significance of that manifestation.

It is precisely here that Freud's psycho-analytic methods supplement the usual modes of study, and thanks to them we are for the first time beginning actually to penetrate into the patient's mind, and to learn something about the pathogenetic mechanisms by means of which the different symptoms of the disorder are brought about. The psycho-analysis of an individual case of any psychosis is so difficult that it is rarely complete. In the present case only a certain number of indications were obtained, which, however, yielded clues of considerable value to the interpretation of the most prominent symptoms. We may begin by noting the results of a few association tests.

<sup>1</sup>G. Specht: Ueber die klinische Kardinalfrage der Paranoia. Zentralbl. f. Nervenheilk. u. Psychiatr. 1908. S. 817.

Stimulus.	October 28, 1908.			November 28, 1908.			
	Time.	Reaction.	Remarks.	Time.	Reaction.	Remarks.	Reproduction.
Carpet.	2	pet.		2.0	pet.		✓
Window.	1.5	dough.			0		0
Cup.	2.5	cut.		8.0	saucer, cup	fellatorism	✓
Blue.		0		9.0	of kindness.	complex.	✓
Grass.	4.0	rasped.	seduction	8.0	white.	purity.	✓
			in orchard		stubble.	As before.	0
			rememb'd.				
Red.	3.0	green.		2.0	blue.		green
Hit.	2.0	blow.		4.0	hat.		fields.
Gain.	3.5	win.		2.0	loss.		blow.
Tree.	4.0	fruit.	childbirth	2.0	shrub.		✓
			recalled.				plant.
Wind.	4.0	wind.		4.0	wind.	winding	✓
Spent.	15.0	it.	orgasm	4.0	spend.	clock.	✓
			evoked.			orgasm.	
Cloud.	4.0	clod.		12.0	clown.		0
Hat.	3.5	cat.		4.0	cap.		0
Pot.	1.5	pan.		1.5	pan.		✓
Come.		0	orgasm.	2.0	go.		0
Dress.	4.5	rest.		4.0	rest.		habit.
Heel.	2.0	toe.		2.0	toe.		✓
Truth.	4.0	Ruth.		3.0	true.		liar.
Past.	6.0	asked.	erotic	2.0	present.		✓
			memory.				
Rail.	4.0	fence.		3.0	log.		✓
Way.	2.0	right.		4.0	side.		wayside.
Black.	1.5	white.		1.0	white.		✓
Street.	5.0	pillow.	mediate	2.5	stream.		0
			assoc. via				
			sheet.				
Cow.	4.0	calf, no.		1.5	calf.		0
Face.	1.0	bull first.		1.0	form.	"should pre-	0
		form.				fer it to face	
						if I were	
						a man."	
Spirit.	4.0	proof, the	orgasm.	3.5	move.		0
		best proof					
		of a fruit is					
		the eating					
		of it.					
Life.	3.0	death.		1.5	death.		✓
Clothes.		0		2.0	closer.		habit.
Sent.	1.5	smell.		1.0	smell.		✓
Sheet.	2.0	sheep.		2.0	towel.		✓
Form.	1.5	habit.		1.5	habit.		✓

✓ = correct reproduction.

0 = nothing reproduced.

00 = memory even for stimulus word forgotten.

In these associations the following points are noteworthy: the high percentage of "complex" indicators; the high percentage of superficial associations, particularly of clang and motor-speech forms; the markedly erotic assimilation shown in regard to most of the stimulus words; and the striking similarity between the results of the two examinations, although a month apart.

They may be contrasted with the following associations, made on January 21. In these the number of superficial associations is



much fewer, and approximates to the normal. The erotic trends are, however, still marked, and the number of "complex" indicators is almost as great as before (about 50% of the tests).

Stimulus.	Time.	Reaction.	Remarks.	Reproduction.
Post.	2.2	pole.		✓
Rich.	1.6	wealthy.		poor.
Work.	1.0	play.		✓
Run.	7.4	stop.		walk.
Talk.	1.2	laugh.		✓
White.	0.6	black.		✓
Spent.	6.4	spent.	orgasm.	✓
Cold.	0.6	heat.		✓
Field.	1.6	felt.	assimilation to sexual complex.	snow.
Car.	4.8	people.		0
Mother.	0.6	father.		✓
Copper.	0.6	penny.		✓
Pole.	6.2	post.		✓
Part.	5.6	the part.		✓
Lamp.	1.6	oil.		✓
Boy.	0.6	girl.		✓
Black.	0.8	white.		✓
Bag.	3.0	bush.		0
Watch.	0.4	clock.		✓
Mouse.	1.0	rat.		✓
Shoot.	0.8	shot.		✓
Jump.	1.8	spring.		✓
Can.	1.0	must.		✓
Hat.	1.0	cap.		✓
Lace.	1.8	corsets.		✓
Rain.	1.8	snow.		✓
Coal.	1.8	furnace.		heat.
Tool.	3.0	toy.	sexual idea.	✓
Coat.	1.2	dress.		✓
Brother.	0.8	sister.		✓
Mount.	5.0	mounted.	orgasm.	✓
Tea.	2.2	milk.		✓
Pin.	3.0	needle.		✓
Drop.	2.0	fallen.	"from grace."	00
Come.	1.4	came.		✓
Cow.	1.4	horse.		✓
Blood.	2.2	white.	mediate via "washed in blood, whiter than snow."	✓
Tree.	0.6	branch.		✓
Rail.	1.6	fence.		✓
Bed.	1.0	couch.		00
Snow.	1.6	white.		rain.
Prick.	1.2	pin.		0
Nut.	1.0	cracker.		✓
Lie.	1.0	truth.		00
Plate.	2.6	pudding.	refers to a ward joke.	✓
Touch.	1.6	play.		feel.
Train.	1.8	people.		✓
Roof.	2.0	ceiling.		✓
Rub.	2.4	brush.	refers to "spots on clothes."	0
Horse.	0.6	cow.		✓

✓ = correct reproduction.

0 = nothing reproduced.

00 = memory even for stimulus word forgotten.

On studying the patient's logorrhœic utterances, and certain clues which will presently be mentioned, obtained from her association reactions, one of the first groups of ideas that impressed itself on the observer was that concerning the "impurity" of her

past life, particularly of her sexual life. Already in her delusion that clergymen were announcing from the pulpit the fact of this impurity, and were urging her to take up a better life, this complex revealed itself. Other manifestations of the same idea were: the belief that she had some unclean contagious disease, and that on account of this the nurses refused to touch various vessels she had used and even feared contamination by touching her; also that her body, especially her vagina, emitted an evil odor. The following flight referred to this: "I haven't a single cent; no one has sent me anything; oh, here is that scent again; shall I never get rid of it?" (indicating the genital region).

This "impurity complex" arose from more than one source. In the first place she had masturbated to an unusual extent, and suffered much remorse in consequence. Many of her association reactions already indicated this fact. Thus 10% of her responses on November 28, contained the word "habit," which was always linked in her mind with the idea of masturbation. Free association from the word "dress" gave "riding-habit, I was fond of riding as a child, it started in me the habit of self-abuse." On another occasion the word "can" gave the association "candle, can't."

Another root of this complex lay in the idea that she had contracted some "filthy" complaint from her husband. About seventeen years ago she had suffered from a vaginal discharge, to which she attributed the septic complications that followed the miscarriage. The medical practitioner in attendance developed a finger infection which he said he had contracted from her. This may have been one of the grounds for believing that the nurses were now afraid of being contaminated by contact with her, for her pride had naturally been much hurt by the occurrence in question. That the memory was still rankling in her mind was illustrated by a free association, taken on December 1; "run—fast—drop to a walk—tap till the sap runs—running tree—root—penis—running sore." The idea that her husband had made her unclean became associated with similar ones about him that we shall later discuss.

The external source of her uncleanness, and the relation of it to sexual matters, was probably the cause of her delusion that she was being poisoned by someone, particularly by her husband (she

once accused him of putting a powder in her drink). She also maintained that there were men in the cellar who kept rapping on the pipes, drugged her with gas, and then had sexual intercourse with her. The gas was sometimes coal gas, sometimes sewer gas. It had a cloudy appearance. *In the morning everything was sticky from the stuff deposited by it.* It was on account of this gas that she would rush to the window to avoid suffocation (an action misinterpreted as a suicidal attempt). The tap water would start running and then stop for a moment while someone put poison in it. The sound of running water, and even the patter of rain drops, did in fact always evoke sexual sensations, probably from its association with micturition.

Another curious symptom in connection with the same complex was the following: During the examination she bent down and insisted on inspecting the heel of my boot. The result appeared to be satisfactory, for she exclaimed; "I see you polish the heel as well as the toe (see association test for "heel"), you must be pure. All parts that one can't see ought to be clean. If the heel is clean, the sole (soul) must be clean. I am a heeler, a healer (spelt), heal-err. To err is human, love is divine. One cannot heal and err at the same time. Thou shalt bruise his heel. I once healed an impotent man, simply by touching his hand." (The subject of impotence will concern us later, as also that of personal cleanliness.) Other manifestations of the same train of ideas were her constant habit of picking up anything she considered clean, pieces of paper, pins, etc., and her exaggerated personal ablutions, teeth-cleaning, etc. The latter symptom is a very common one, especially in the "*Zwang*" neurosis, where it always indicates a reaction against sexual "impurity," particularly masturbation.

We must now further pursue the relation of the patient to her husband. She often maintained that she was not legally married to him. One day she burst into tears at the sight of a photograph of her son, and called him an orphan because he had no father. "Our marriage was not a real one. We were giggling before the clergyman. Mr. T. didn't know which finger to put the ring on, and I had to put it on myself. That hurt me dreadfully." The seizing at trumpery pretexts to prove that her marriage was not binding of course indicates the presence of some deeper reason for

wishing this. Two other pretexts, though less trumpery, served the same purpose. The first of these was that she was already two months pregnant when she married her husband, and would never have married him had it not been for that. She seriously thought of evading the marriage, and her brother had offered to help her in that event. The marriage ceremony was in some respects therefore a farce in her eyes. The second pretext was that she had before marriage already had sexual relations, at the age of sixteen, with her music master. This affair had lasted three months, and he had made her swear that she would never marry anyone else. The notion that her "second" marriage was not holy in the sight of heaven had for years haunted her, and only recently she had taken the advice of a clergyman on the question whether it was lawful for her to continue her relations with her husband. Some four years ago she put a stop for some months to conjugal relations, because she thought they were "wicked."

There were, however, deeper reasons why she was unconsciously striving against the idea of a binding marriage. Her sexual needs had apparently only increased as she grew older, and indeed were approaching a stage when they might almost be called nymphomaniac, so that the demands made upon her husband in this respect were exceeding his capacity. She stated this quite unequivocally, and contrasted him in this respect with her first lover, who had on several occasions had sexual intercourse with her over a dozen times in one night. We find here a second cause of her refusal to take food. She said "I nearly died of starvation, and yet I wasn't trying to commit suicide. However much I ate I couldn't get *satisfied*. Satisfied has two meanings, hasn't it?"

Further, although, as was above mentioned, her husband had taken a very lenient attitude towards her sexual irregularities, still she naturally felt her impulses in this direction restrained. An instance of how this powerful wish for freedom caused her to read obscure meanings into simple actions might here be given. Her husband brought one day to the asylum a watch which she had left behind at home, and handed it to her with the words, "This is yours, my dear." She felt convinced that his words contained an inner meaning, namely that the "watch" stood for the female genital organs, and that his giving it to her indicated his agreement that these organs were her own, to do with as she



willed. I asked her why a watch should represent the female genital organs, although I knew that the association between the two is not a rare one in dream processes, etc., and she answered "I suppose because it has works inside that keep regular time(s), or else because it needs a 'key' to wind it up." (See association to "wind" on November 28.) It is not without significance that the particular watch in question had been given to her by her first lover, the music master.

Her love, that could not adequately be gratified by her husband, had, therefore, to seek another direction. Several causes combined to make this a religious one. Ministers appealed to her from the pulpit to forsake her evil ways and follow the true path. She interpreted this very literally as referring to her sexual life, and meaning that she had previously been indulging in sexual gratification *in the wrong way*, and that she must now find *the right way*. One minister publicly made to her in veiled language the great revelation of what was the right way. Before eliciting this I had already noticed the plainest signs indicating the nature of her discovery. When speaking of religious observances, particularly of holy communion, she broke off, and slowly and reverentially went through a perfect pantomime of the whole ceremony. This culminated in her taking a glass of water, which she had placed on a Bible, and gradually raising it to her lips where she beatifically sucked the rim, slowly revolving the glass as she did so. During the latter part of the performance a complete and exhausting sexual orgasm took place. I pointed to the glass and asked her if it was the communion cup; she answered, "Do you call it a cup? It has another name," and later remarked, "This is *the Way*, the Truth and the Life." (See associations to "way," October 28 and November 28.) Again, "I prayed earnestly to God to let me have what I most wanted with Mr. X. (the minister). He refused, and I had to submit to His will, and drink the cup of sorrow (communion) alone."

It was manifest that the act of partaking of holy communion, performed in a very sensual way, had for the patient replaced that of normal sexual intercourse. There was ample evidence to support this conclusion. I asked her at what age she had first taken communion. She answered "At sixteen (referring to her first sexual relations; she had partaken of communion two years be-

fore this). Oh, do you mean the outward and visible sign of true communion? That was two years before." The religious ceremony was thus to the patient an outer symbol of some actual physical mode of sexual gratification. On another occasion she told me how puzzled she had been at a statement of her minister's to the effect that no one should partake of holy communion until after having two weeks' preparation; later she "discovered" that he had referred to the necessity for previous purification—by thoroughly washing the genitals with soap and water.

After this revelation it now became plain to her that all her life she had been enjoying sexual pleasures in the wrong way, and that the true way was to admit the male organ not into the vagina but into the mouth (fellatorism). The seed was in this way to enter into the body—had not Christ said "Take and drink"?—where it would perform its function of creating and nourishing the child. She would thus be able to bear another child to replace the one she had lost, in spite of the ruin of her internal genital organs. Perhaps her deepest grudge against her husband was the fact that his "uncleanness" had put an end to her child-bearing at the early age of twenty-two. Her belief that "the new way" would bring to fruition her maternal desires, and secure both the creation and nourishment of the child, was confirmed by a piece of advice given to her by her doctor to the effect that "she ought to swallow as much *milk* as possible."

One naturally next enquired into the source of the patient's knowledge of the perverse pleasure just described. She had on a few occasions performed cunnilingus with her husband, but never actually fellatorism. "He was not clean enough; he did not bathe so often as Mr. X" (the music teacher). She had, however, on several occasions performed the act in question with another man. There were further evidences to show that the patient was one of that frequent type to whom the excitation of the lips and mouth is capable of yielding as intense sexual pleasure as that of the genital regions. In these people one might say that in a certain respect the cavity of the mouth is an equivalent of that of the vagina, and can in fact replace it (Freud's *Verlegung von Unten nach Oben*). This is of course, as a rule, accompanied by marked sucking movements, and the earliest source of this abnormality has been clearly traced by Freud to the sucking movements of the

infant at the nipple. Children destined later to show this abnormality are morbidly fond of sucking various objects, particularly their own toes or fingers. This simple pleasure had still persisted in the patient in question. On several occasions I witnessed her develop an obvious orgasm by vigorously sucking her thumb. When she was first seduced, at the age of sixteen, by the music teacher, he aroused her passions by warmly kissing her and at the same time moving his tongue round and round in her mouth ("like I am now turning the cup," she said, carrying out this action). On one occasion when referring to some high words she had had with a doctor, she said, "I gave him a good tongue-ing. That's a word that has two meanings, you know. I mean it here in the innocent sense."

The patient had thus by devious routes come to the idea that fellatorism was the "true way" of obtaining sexual gratification, and that the conception of a child would follow on this act. "The seed of a man must enter into the woman—into the woo-man—not into the womb-man, but into the mouth" was a remark that amongst many others exemplified this. The form of gratification just mentioned she identified with the partaking of the holy sacrament; \* a vital fluid was swallowed in both cases, the name communion she used indifferently for both, and the penis she referred to as the "cup of kindness."

A series of consequences followed from this belief. Swallowing became for her an act of the highest significance. In a number of articles of diet, particularly in a peach, she saw resemblance to the genital organs and entered into an orgasm when sucking and swallowing them; she would frequently keep one hand on the communion service in the prayer-book during this process. Drink had always to be taken in a certain way, following a ritual resembling that of the holy sacrament. Her husband had poisoned her with his uncleanness; therefore, the food at home, i. e., belonging to him, which she had to swallow was also poisoned. On the other hand, she could not obtain enough food to "satisfy" her.

\*The bearing of this identification on the subject of the historical development of the communion ceremony cannot here be discussed, but will be obvious to those who have made a comparative study of the origin of Christian rites.

It was, therefore, not only injurious in quality, but also inadequate in quantity.

If we now make a short synthesis of the order of development of the psychosis it will run somewhat as follows: A woman, of passionate temperament and strong religious training, had at the age of sixteen been seduced, and at the age of nineteen had married another man by whom she was already pregnant. After bearing one child she had a miscarriage, which she attributed to a gonorrhœa contracted from her husband, and underwent a number of gynecological operations and other treatment for the relief of subsequent pelvic complications; her ovaries were removed at the age of twenty-three. As the years went by, her desire to have more children was strong and her sexual inclinations increased in intensity; at the same time her husband's capacity to gratify these grew less, and she contrasted him unfavorably in this respect with her former lover. She thus blamed her husband twice over for her lack of children. She had illicit relations with other men, which caused her much remorse. Religious appeals to forsake her evil ways and lead a new life she interpreted as a revelation indicating the error of her past sexual life and advocating a new form of sexual life. For a number of reasons this idea of a new sexual life took the form of the fellatorism perversion. She tenderly loved her husband so that there arose in her mind an intense conflict between this feeling of love and duty, and the forces impelling her to turn from him to a new kind of life. The compromise between the two sets of forces was found in identifying, for a number of reasons, the act of fellatorism with the partaking of the holy sacrament. A number of abnormal mental processes were the direct outcome of this; such were delusions of poisoning, refusal to take food, intense excitement evidently of erotic origin, belief that various ministers were in love with her and eager to lead her into the "new way" of sexual life, etc. These abnormal processes clinically constituted recurrent attacks of mania.

It was impossible to perform a complete psycho-analysis of the case, and I have contented myself here with giving a few examples out of the rich material of observations made, together with the main conclusions to which the study led. By means of the knowledge gained by psycho-analytic methods one was able to render intelligible the abnormal mental processes in a way otherwise im-



possible, and to obtain most valuable clues into the significance and origin of the symptoms of the psychosis. No generalizations as to the nature of manic-depressive insanity are offered from the observation of this case, but it is maintained that studies undertaken by means of the psycho-analytic method promise better than any others to give us in time an understanding of the mechanism, and perhaps the nature, of the malady.

## IMPRESSIBILITY IN DEMENTIA PRÆCOX.\*

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There have been many monographs and articles written on the subject of memory, considering it both from the practical and theoretical sides. The mechanism, the laws of acquisition and of conservation have been studied, and the many questions relating to these have been frequently debated. Binét, Henri, Ebbinghaus, Münsterberg and others have experimented with the memory of phrases, sentences and objects, and Stern a short time ago founded a journal devoted entirely to this work. In the abnormal cases the various amnesias have received special attention and have given rise to many articles based on organic brain lesions or on toxic processes.

In working on the subject of impressibility the methods of experimentation differ with each experimenter and the time which separates the presentation and reproduction also varies greatly. Some authors have allowed the subject to tell freely what they have seen or heard, while other have questioned the subject about it. Both sexes and various types of intellectual development have been studied, and the general conclusion drawn is that exactness of memory is the exception and not the rule. Stern in 100 cases received 91.5% of correct answers, while Wreschener, who experimented under similar conditions, found only 74% correct. Stern found that women forget less than men, but their memories are more unfaithful.

In the following work an attempt was made to study certain cases of dementia præcox and to determine how well the subject

\* In this impressibility means not only the power to receive and retain stimuli but also the ability to reproduce them. The experiments are analogous to the "aussage" experiments of Stern and were undertaken in order to determine whether there was a marked deviation from the normal in this field in cases of dementia præcox.

could reproduce or recall certain visual and auditory stimuli after a short time and also the increase in ability to recall certain visual images after seeing them several times. The work does not concern itself with the question as to where memories are stored or by what mechanism they are conserved. The individual variation is very great, as Münsterberg has shown in normal subjects; and in different mental diseases, especially in the organic brain diseases, the percentage of error would increase as the emotional and intellectual deterioration increases.

In dementia præcox one of the first symptoms is a defect in voluntary attention. This is shown at any early stage, even before the other symptoms of the disease can be demonstrated. It is seen in the inability to continue steadily at one line of work and in students by the inability to attend closely to their studies. This is due partially to defect in volition and partially to some affect disturbance, but neither may be so prominent as to call forth comment by the patient's friends. Consciousness may be clear and the intellectual faculties may be apparently undisturbed. Since attention and interest are disturbed, it is reasonable to presume that the subject's ability to take in and reproduce certain visual and auditory sensations would be more or less markedly affected.

In the following experiments two methods were used and the work was divided into two series according to the method. In the first series auditory stimuli were used, three words were repeated and after one minute of distraction the subject was asked to tell the words. Immediately afterwards three numbers were given and after a minute of distraction were recalled as before.

In the second series a page containing pictures of 14 objects or group of objects was exposed for 30 seconds. It was then covered and the subject told what he had seen, the time of reproduction being noted. This was repeated for three successive days, the subject being shown the same page for the same length of time on each occasion; the results were tabulated according to age, duration of disease, degree of dementia and form of disease.

#### FIRST SERIES.

In this series there were 43 subjects, 15 males and 28 females. Three words, such as bed, floor and table, were given; then after

one minute of general conversation the subject was asked to repeat the words. Immediately after this three numbers, such as 3-88-116, were given and recalled after one minute of distraction, as before.

*Sex.*—There was practically no difference in the results in the two sexes. 20% of the males and 21% of the females recalled both sets correctly; 33% of the males and 32% of the females failed to recall either; 46% of the males and 46% of the females recalled one set correctly, but failed to recall the other.

*Form of Disease.*—There were six catatonic males and nine females, seven hebephrenic males and ten females and two paranoid males and nine females. In tabular form the results are as follows:

	Both correct.	One correct.	Both incorrect.
Catatonic:			
Male, 6 .....	33%	50 %	16 %
Female, 9 .....	11%	44.6%	44.4%
Hebephrenic:			
Male, 7 .....	14%	57 %	29 %
Female, 10 .....	20%	40 %	40 %
Paranoid:			
Male, 2 .....			100 %
Female, 9 .....	33%	55 %	12 %

As seen above in the catatonic form, 33% of the males recalled both correctly; 16% failed on both and 50% recalled the first correctly, but failed on the second. Of the females, 11% recalled both correctly, 44.4% failed on both and 44.4% recalled one correctly. 14% of the hebephrenic males recalled both correctly, 29% recalled both incorrectly and 57% recalled one correctly, while 20% of the females recalled both correctly, 40% recalled both incorrectly and 40% recalled one correctly. Both paranoid males failed to recall either set, while 33% of the women recalled both correctly, 12% both incorrectly and 55% recalled one correctly.

*Age.*—The ages of the patients varied from 15 to 50, seven being over 40 years of age and 5 under 20. The results show that 20% of the males under 25 recalled both correctly and 50% recalled one correctly, while of the females 50% recalled one correctly, but none recalled both.



	Both correct.	One correct.	Both incorrect.
15-25 years:			
Male .....	2-20 %	5-50 %	3-30%
Female .....		3-50 %	3-50%
25-35 years:			
Male .....	1-25 %	2-50 %	1-25%
Female .....	3-27.2%	3-27.2%	5-45.4%
35+ years:			
Male .....			1-100%
Female .....	2-18 %	7-63 %	2-18%

*Dementia.*—The degree of dementia must necessarily be determined in an arbitrary fashion. The subjects were divided into two groups, one showing slight dementia, among which were included the acute cases and the chronic cases showing slightly marked apathy, indifference and only slight judgment defects; while those showing a more marked apathy, many judgment defects, and were of a long duration were put in the group of marked dementias. Nine males and 15 females showed slight dementia and 6 males and 13 females were markedly demented. In those showing slight dementia there was practically no difference between the males and females.

In those showing marked dementia the males gave 66% incorrectly, 16.6% gave one correctly and 16.6% gave both correctly, while of the females, 30% answered both correctly, 23% answered one correctly and 46.1% gave both incorrectly.

	Both correct.	One correct.	Both incorrect.
Dementia, Slight:			
Male .....	2-22 %	6-66 %	1-11%
Female .....	2-14 %	10-66 %	3-20%
Dementia, Marked:			
Male .....	1-16.6%	1-16.6%	4-66 %
Female .....	4-30 %	3-23 %	6-46.1%

*Duration of the Disease.*—In seven females and six males the duration was less than one year; of these, two females gave both correctly and five gave one incorrectly, while two males gave both incorrectly, and four gave one incorrectly. Ten females and eight males had been suffering with the disease from one to five years. Of these, three males and one female answered both correctly, two males and five females recalled both incorrectly and three males and four females recalled one correctly. There were 12

patients with a duration of from five to ten years. Of these three females recalled both correctly, four females and one male recalled both incorrectly and four females recalled one group correctly, but failed to recall the other.

	Both correct.	One correct.	Both incorrect.
Under one year:			
Male .....	—	4	2
Female .....	2	5	—
One to five years:			
Male .....	3	3	2
Female .....	1	4	5
Over five years:			
Male .....	—	—	1
Female .....	3	4	4

#### SECOND SERIES.

In the second group a series of pictures were shown for 30 seconds; these were then covered and the subject asked to name all the objects seen. This was repeated three days in succession, the same pictures being shown, and the results tabulated as in the first group. There were 14 objects or groups of objects and the subject was asked to name the object and not go into details about the color, etc. The work was done in a room off the ward, and the patients admitted one at a time. Among the younger patients there was some rivalry as to who could recall the larger number, but only one man succeeded in naming all on the page, and he added three objects which were not there. Many of the demented patients would name all they could in 20 or 30 seconds, and if urged to continue would almost invariably fabricate and name various objects which were not on the paper, and objects which could not be well called up by any association with objects which were on the paper. For example one patient when asked to continue said train robber, another horse and buggy, etc. In this group there were 43 subjects, 29 male and 14 female. Several others were tried, but after naming one or two objects would stop and express their delusions or would refuse to continue. This refusal was especially marked among the women. Ten normal men and ten normal women were first tried with the pictures once. The men averaged 73.7% correct and the women 60.31%, while the time occupied by the men in relating the subjects was 114.5 seconds, and the women 64 seconds.

The results were tabulated according to the percentage of correct answers in the first, second and third attempts, the number of incorrect answers referring particularly to objects which were not on the paper, and also the time for each attempt.

*Form of Disease.*—There were ten males and five females suffering with the hebephrenic type of disease. The accuracy of the male replies increased from 31.4% correct on the first trial to 50.7% on the second and 63.57% on the third. The females recalled 32.85% correctly on the first trial, 46.42% on the second and 46.42% on the third trial. The incorrect replies of the males increased from 5 on the first to 12 on the second and 16 on the third trial, while the females gave 7 incorrect replies on the first, 4 on the second and 7 on the third trial. Thus while with the males the percentage of correct replies increased, the incorrect replies also increased correspondingly, while with the females there was no such increase either in the correct or incorrect recollections. With the males the time increased from the first to the third trial, while with the females the time for the third trial was less than for either of the preceding.

	Average correct replies.			Total incorrect replies.			Average time in seconds.		
	1st.	2d.	3d.	1st.	2d.	3d.	1st.	2d.	3d.
Males, 10 .....	4.4	7.1	9.1	5	12	16	35	45	67
	31.4%	50.7%	63.5%						
Females, 5 .....	4.6	6.5	6.5	7	4	7	53	54	46
	32.85%	46.42%	46.42%						

There were 12 catatonic males and 4 females. In this group also the males made a better showing than did the females. Although the females made a higher percentage of correct replies on the third trial than did the males, the males showed a more marked increase from the first to the third trial. The males gave more incorrect replies than did the females. The time taken in telling what they had seen was longer in this group, as a rule, than in the former, as seen by the table:

	Average correct replies.			Total incorrect replies.			Average time in seconds.		
	1st.	2d.	3d.	1st.	2d.	3d.	1st.	2d.	3d.
Males, 12 ...	4.09	6.	7.72	11	19	18	51	70	65
	22%	42.85%	55.14%						
Females, 4 ..	4.5	6.25	8	1	3	5	50	58	72
	32.14%	44.64%	57.14%						

In the paranoid group there were seven males and five females. Although the males gave a larger total of correct replies the relative increase of the males and females is about the same. As in the two preceding groups the males gave a larger total of incorrect replies. The average of correct replies was greater in this group with both sexes than in either of the preceding and the relative increase was also greater. The time is also greater than in the former groups and increases proportionally to the increase of correct replies.

	Average correct replies.			Total incorrect replies.			Average time in seconds.		
	1st.	2d.	3d.	1st.	2d.	3d.	1st.	2d.	3d.
Males, 7 . . . . .	4.85	7.43	10.16	6	10	4	47	64	73
	34.64%	53%	72.57%						
Females, 5 . . . .	4	7.2	8.6	2	3	6	63	73	92
	28.57%	51.42%	61.42%						

*Degree of Dementia.*—The degree of dementia was determined in this series as in the first. There were 7 females and 16 males in the slightly demented group and 7 females and 12 males with marked dementia. As would be expected, the percentage of correct replies was greater with those slightly demented than with those in whom deterioration was more marked and the time is increased with the greater percentage of correct replies. There is an increase in both groups from the first to the third trial, but this increase is more marked in those slightly deteriorated. The males of both groups gave a larger percentage of correct replies and also gave a larger total of incorrect replies. The results in tabular form are as follows:

## SLIGHT DEMENTIA.

	Average correct replies.			Total incorrect replies.			Average time in seconds.		
	1st.	2d.	3d.	1st.	2d.	3d.	1st.	2d.	3d.
Males, 16 . . . . .	5	8	10.5	14	23	19	45	71	73
	35.4%	57%	75%						
Females, 7 . . . .	4.71	7.71	8.71	5	5	4	56	69	70
	33.6%	55%	62.2%						

## MARKED DEMENTIA.

	Average correct replies.			Total incorrect replies.			Average time in seconds.		
	1st.	2d.	3d.	1st.	2d.	3d.	1st.	2d.	3d.
Males, 12 . . . . .	3.75	5.16	6.8	10	18	21	42	45.5	56.2
	26.7%	36.8%	48.5%						
Females, 7 . . . .	3.85	5.5	6.66	5	5	2	57	54	91
	27.5%	39.28%	47.57%						



*Duration of Disease.*—There were three females and no males with a total duration of disease less than one year, from one to two years there were six males and two females; from two to five years, thirteen males and two females; from five to ten years, seven males and two females; and over ten years, three males and five females. The highest percentages of correct replies and the greatest relative increase were made by the females with a duration under one year, and the lowest percentages and smallest increase by women with a disease duration of from two to five years. As seen by the table, duration of disease has little effect on the percentage of correct replies.

	Average correct replies.			Total incorrect replies.			Average time in seconds.		
	1st.	2d.	3d.	1st.	2d.	3d.	1st.	2d.	3d.
Under one year:									
Male, 0 .....									
Female, 3 .....	5.66 40%	9 64.2%	11 78%	2	4	2	58	52	73
One to two years:									
Male, 6 .....	4 28.5%	5.5 39.2%	6.25 44.6%	8	11	7	48	73	61
Female, 2 .....	3 21.4%	4 28.5%	4 28.5%	0	0	1	37	60	45
Two to five years:									
Male, 13 .....	4.76 34.4%	7.2 51.4%	9 64.2%	6	15	16	37	51	69
Female, 2 .....	2 14.2%	3.5 25%	3.5 25%	2	1	4	57	54	95
Five to ten years:									
Male, 7 .....	4.1 29.2%	7 50%	9.57 68.3%	8	10	7	37	67	65
Female, 2 .....	3 21.4%	6.5 46.4%	6.5 46.4%	6	3	5	65	64	51
Over ten years:									
Male, 3 .....	4.66 33%	6 42.8%	8.66 61.8%	6	5	5	80	57	75
Female, 5 .....	4.66 33%	7.2 51.4%	8.9 63.5%	0	2	6	52	72	95

*Age.*—The patients varied from 15 to 55 years in age. As a general rule the younger patients gave the larger percentage of correct replies, but one male of 52 years had a percentage of 78.57 correct. If there had been more patients in this group, however,

the average would probably have been lower. The females between the ages of 20 and 30 gave the smallest percentage of correct replies in the group. Of the males those between the ages of 40 and 50 gave the smallest percentage of correct replies. In this, as in every other group, the males gave the largest total of incorrect replies and made the largest relative increase of correct replies. The results in tabular form are as follows:

	Average correct.			Total incorrect.			Average time.		
	1st.	2d.	3d.	1st.	2d.	3d.	1st.	2d.	3d.
Under 20 years:									
Male, 3 .....	5.15	8.5	10	3	5	5	74	122	88
	39.28%	65%	71.42%						
Female, 2 .....	6.5	9.5	10.5	1	3	2	34	40	51
	47.42%	67.85%	75%						
20 to 30 years:									
Male, 17 .....	4.21	6.88	8.82	12	25	29	41	40	49
	30%	49.14%	63%						
Female, 2 .....	3	3	3	1	0	1	73	75	140
	21.42%	21.42%	21.42%						
30 to 40 years:									
Male, 6 .....	5.16	6.33	8.16	2	6	2	40	51	93
	36.85%	45.21%	58.28%						
Female, 6 .....	3.16	5.33	6.83	5	6	8	53	54	64
	22.57%	38%	48.78%						
40 to 50 years:									
Male, 2 .....	3	4.5	5	5	4	1	55	72	50
	21.42%	32.14%	35.71%						
Female, 3 .....	4.66	8.66	10	0	2	12	57	74	112
	31.85%	61.85%	71.42%						
Over 50 years:									
Male, 1 .....	5	8	11	3	1	1	50	45	45
	35.71%	57.14%	78.57%						
Female, 1 .....	2	7	6	3	0	1	95	105	55
	14.28%	50%	42.85%						

With auditory stimuli both sexes seem able to give practically the same percentage of correct replies. The catatonic and hebephrenic males are more accurate in their responses than the females. In the paranoid group the number of males was not large enough to give any comparison. In this series there is little difference between the sexes at the various ages except between the ages of 25 and 35 years, where the males gave 75% and the

females but 54% of correct replies. Those with only a slight degree of dementia are able to recall the words much better than those with more marked deterioration.

In the second series the males gave a more marked increase in the percentage of correct replies and the time of reproduction is as a rule greater. The tendency to elaborate and to give names of objects not seen on the page is greater with the males than with the females. In every case there is an increase in the number of correct replies on the second and third attempts, due partially to a retention of those seen on the preceding day and partially to a more active interest in the experiment. The increase is greater in inverse relation to the dementia. The time of reproduction, as a rule, is increased with the increase of correct replies. Females in whom the disease had existed less than one year and males with the disease duration of from five to ten years gave the greatest number of correct reproductions. These figures are not comparable, owing to the small number of females. The time of reproduction and the total number of incorrect replies depends little on the duration of the disease, but as a rule the younger patients recall more correctly and give fewer incorrect replies than do the older patients and the time of reproduction is correspondingly increased.

The results show in an interesting way that there is a decrease in attention and power of perception in these cases which is directly proportional to the decrease in the affect. Naturally cases in whom consciousness is clouded and in whom attention is entirely absorbed by delusions or hallucinations must be excluded. In the earlier stages of the disease, especially in the catatonic forms, there is sometimes a marked motor inhibition and such cases will not give reliable results in experiments such as these. Suggestibility is shown very well in these experiments and seems to be especially marked in the catatonics.

The affect deterioration in the different patients is shown clearly in the answers they give. Frequently a patient who has been ill but a short time will show a much more marked lack of interest than one who has been in the hospital for years. The liability to fatigue is best seen with the visual stimuli, the experiment requiring a strong concentration, which power is lacking in the majority of patients suffering with dementia præcox. The method is a

very simple one and could be very well used with patients suffering with the other psychoses.

*Conclusions.*—Males, as a rule, gave the more correct reproductions and the time required was longer. They also showed a greater tendency to amplify their answers with incorrect reproductions than did the females.

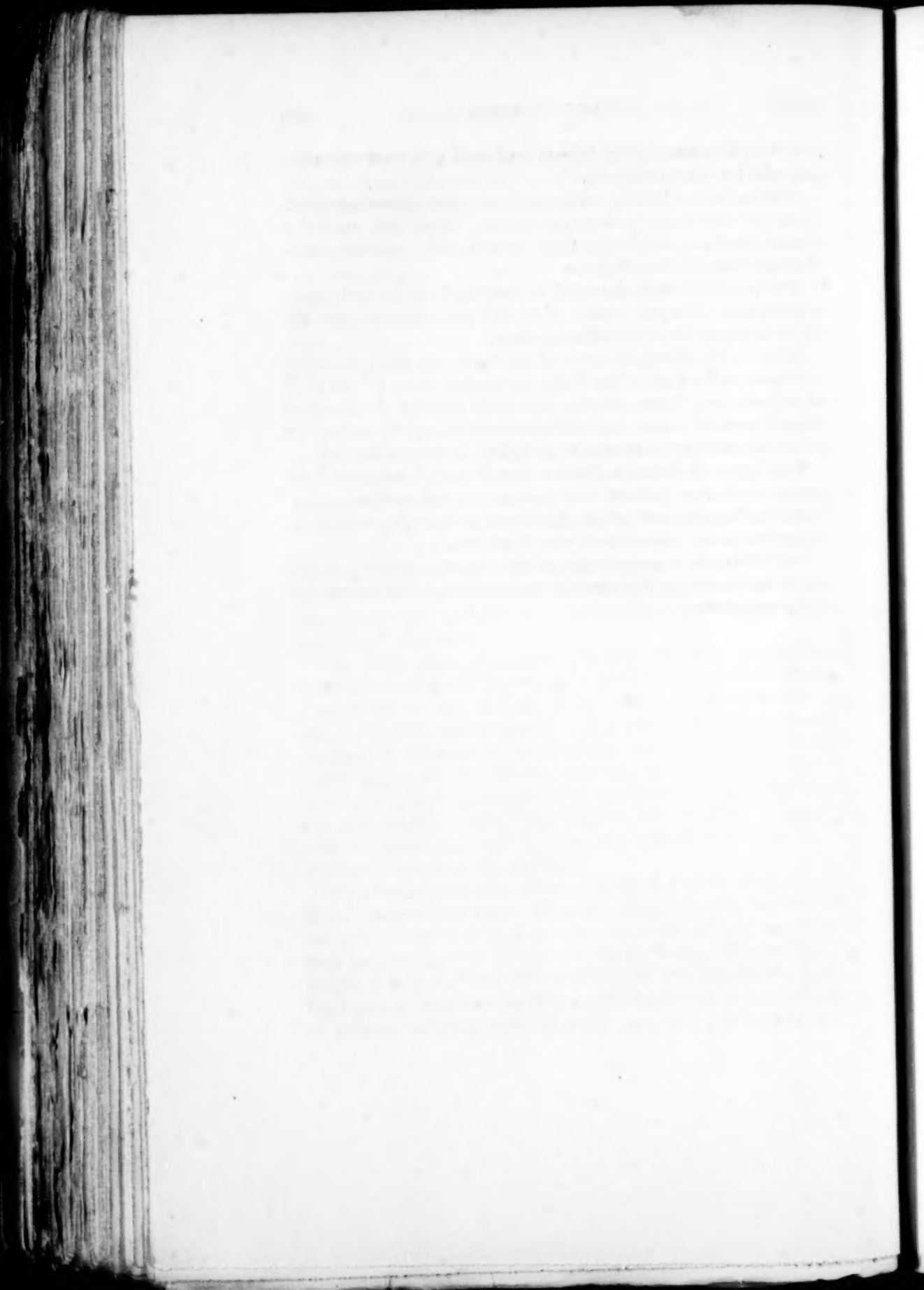
The paranoid cases showed less emotional apathy and consequently gave a larger number of correct reproductions than did either the catatonic or hebephrenic cases.

There is no definite measure of dementia, but when cases are arbitrarily classed according to the apathy they show, the duration of disease, etc., those showing the more marked deterioration almost invariably show less ability to recall either the auditory or visual stimuli than do those with a slighter degree of dementia.

The degree of dementia does not depend on the duration of the disease and many patients with a long hospital residence show much less apathy and affect deterioration than do patients in whom the disease has existed but a short time.

The ability to reproduce the stimuli depends directly on the ability to concentrate the attention and the interest the patient has in the experiment.





## HYSTERIA, WHAT IT IS AND WHAT IT IS NOT.\*

By CHARLES K. MILLS, M. D.,

*Professor of Neurology in the University of Pennsylvania; Neurologist  
to the Philadelphia General Hospital.*

*(From the Department of Neurology of the University of Pennsylvania.)*

Hysteria, a favored topic with medical writers since the time of the father of medicine, has again come to the front under the stimulating influence of Babinski, who has attracted the attention of the neurological world to this old subject, as Marie, a few years since, revived interest in aphasia. In the case both of aphasia and hysteria, views regarded as classical if not irrefragable have been attacked with skill and audacity. The profession of medicine owes much both to Marie and to Babinski, even if it is not prepared to give universal acquiescence to their views. Much that Babinski<sup>1</sup> has advanced should be received without demur. One thing of great value which has come out of his studies and writings has been the more exact delimitation of the definition of hysteria, even if the bounds set by him are not accepted in their entirety. He has done for hysteria what our distinguished American colleague, Dr. Dana, has accomplished for another nervous disorder so often discussed with hysteria and not infrequently combined with it in a clinical case, in his paper on "The Partial Passing of Neurasthenia." It might be said

\* Read at the sixty-fifth annual meeting of the American Medico-Psychological Association, Atlantic City, N. J., June 1-4, 1909.

<sup>1</sup> *Ma Conception de l'Hystérie et de l'Hypnotisme (Pithiatisme). Conférence faite à la Société de l'Internat des Hopitaux de Paris, June 28, 1906.*

*Émotion, Suggestion et Hystérie. Extraits des comptes rendus de la Société de Neurologie de Paris, July 4, 1907.*

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also that Dana,<sup>2</sup> after the fashion of Babinski, and almost contemporaneously with the latter's first general presentation of his conception, has set limits to hysteria which are not very different from those of Babinski, although expressed in somewhat different terms.

The tendency in the past has been to regard too many clinical phenomena as hysterical—to assign to hysteria every sort of nervous affection for which no other abiding place could be found. In a few respects Babinski has perhaps narrowed too much the conception of hysteria.

The definition of hysteria has been often essayed. Reference to a few of these definitions might here be made. In doing this I shall refrain from recalling any of my own efforts in this direction, as these with more experience have become more or less unsatisfactory. Starr, in his recently published work on "Nervous Diseases, Organic and Functional" (second edition, 1907), speaks of it as "a functional nervous condition characterized by a permanent mental state, which may be termed the hysterical temperament, and by sudden temporary attacks, of mental or emotional or physical kind." A definition like this, although necessarily imperfect, answers well enough for general descriptive purposes. The inclusion by Starr of the hysterical temperament as a permanent condition is important, as indicating that always underlying hysterical phenomena is a constitutional predisposition.

Dana, in his article on "The Limitation of the Term Hysteria," in his usual terse and thoughtful manner, has given a definition which appeals to those who have dealt practically with the disease when he says that hysteria "is a morbid mental condition in which ideas or emotional states seriously and unwittingly control the body and produce more or less permanent and objective morbid states." In this definition he introduces an etiological factor largely disregarded by Babinski, and insists with correctness on the possible greater or less permanence of the phenomena of the disease, in this respect also differing somewhat from the French neurologist.

<sup>2</sup>"The Partial Passing of Neurasthenia." Boston Medical and Surgical Journal, March 31, 1904.

"The Limitation of the Term Hysteria, with a Consideration of the Nature of Hysteria and Certain Allied Psychoses." Journal of Abnormal Psychology, February, 1907.

The etiological and therapeutic definition of Babinski is that now most attracting attention, but this, like all others, is far from being completely satisfactory. While it is impossible to state what the transient anatomical substrata of hysterical phenomena are, in every definition which deals with the supposed nature of hysteria, some consideration must be given to this matter, as well as to the question of inherited tendency. An affection which presents such definite symptoms and signs as those which are recognized universally as hysterical must have beneath it a change of some sort in the nervous system, even though this is of a more or less transitory character. The disease is functional in the sense that this change is not necessarily permanent, and healthy conditions can often, but by no means always, be readily restored; but disease it is, whatever its nature and however short or long its duration. What the change in the nervous system is, the most extensive observation and investigation have not enabled us to learn, but the same may be said of other so-called mental and nervous disorders which are everywhere appreciated as real diseases—of melancholia, mania, the neuralgias and chorea, for instance. The speculations advanced like those of cortical vasomotor spasm, of toxemia, and of neuronal disconnection, are all open to the objection that they cannot be proved and are not on the basis of analogy truly explanatory of the phenomena.

Objections of another sort may be urged to the psychological definitions which discuss hysteria as a dissociation or disintegration of personality. This it probably is, but not much help is given to the student or the practitioner by such a definition unaccompanied by a consideration of both predisposing and exciting etiology, and of its generally recognized clinical phenomena. The disease is genuine, not simply imaginary or factitious, even if the conditions underlying it are not demonstrable by any known methods.

A partial error in the definitions of both Dana and Babinski is that sufficient emphasis is not laid upon the abortive or imperfectly developed forms of hysteria. These constitute a considerable percentage of the cases which should be really regarded as instances of hysteria, and no more reason exists for not recognizing them than for not believing in the abortive forms of other well-known diseases as, for instance, the *formes frustes* of ex-

ophthalmic goiter. These cases of hysteria in which hypesthesia, sometimes of light grade, moderate or slight impairment of motor power, choreiform movements, tremor, and other well-known phenomena are present, are as truly instances of the disease, although of less severity, than those observed in the rare disease described by Dana, in which gravely marked and more permanent symptoms and signs can be demonstrated. The same constitution or temperament usually underlies them, and they present the same or similar stigmata, these differing only in their intensity. That they are amenable to treatment is not an argument against their genuineness.

The main advantage of Babinski's definition that hysteria is a nervous disorder induced by suggestion and cured by persuasion, is that it concentrates attention upon what the framer of the definition believes are its great causative and curative agencies. It leaves the fundamental nature of the disorder unexplained, while presuming, of course, its psychic pathology.

Babinski includes in his list of hysterical stigmata, that is, in his series of phenomena which are capable of being produced by pure suggestion and cured by persuasion, "convulsive attacks; somnambulism; delirium; paralysis; divers contractures; tremors; choreiform movements, usually rhythmical; disturbances of phonation and respiration; disorders of sensibility shown in anesthesia and hyperesthesia; sensorial anomalies; and disturbances of the bladder."

Speaking of what should be excluded from the hysterical syndrome, he tells us, "Suggestion cannot abolish or exaggerate tendon reflexes or cause disturbance of the pupillary reflexes or the cutaneous reflexes; at most, suggestion can only render examination of these phenomena difficult, or place obstacles in the way which might mislead a novice, but which an experienced neurologist would overcome; suggestion cannot induce vasomotor, secretory or trophic disorders, and it cannot alone induce hemorrhage, anuria, albuminuria or fever."

Let us turn aside for a moment to say a word about terminology. All things considered, it is better to retain the word hysteria unless some term unequivocally expressive can be substituted, and even Babinski has failed in this respect. In order to enforce his views he has coined the new term pithiatism and its derivative

pithiatric from Greek words meaning "persuasion" and "curable." As he recognized, this new term refers to only one, although an important, feature of his definition. It does not indicate the idea of suggestion as a cause, although he regards suggestion as one of two factors of his definition. An earlier recommendation than that of Babinski, of a term to describe hysterical and hypnotic phenomena, was *suggignoskism* or *suggestionism*, but this term is as objectionable as *pithiatism*, and for a somewhat similar reason, namely, that it is not sufficiently descriptive.

Is it altogether philosophical to describe a disease by a term which is supposed to indicate the method of successfully treating it? Objections might be offered to this therapeutic-test method in terminology as in diagnosis. Quinine in malaria, mercury in syphilis are remedial or curative agencies. Should one, therefore, define these diseases, not as affections with special pathogenesis and well-known clinical phenomena, but in terms which indicate that they yield to certain medicinal remedies? No one but Babinski and his immediate following will dispute that hysterical affections will not always yield to methods of persuasion or education, unless these are supplemented by other measures calculated to improve the general nutrition of the patient and to counter-balance inherited predisposition. What neurologist of large experience has not seen, especially in his private work, cases of grave hysteria which have resisted all suggestive and persuasive efforts until measures of a physical character have been used? It is true it has been said that the so-called rest treatment, with its seclusion, massage and electricity, is only a special method of applying suggestion and persuasion. Abundant experience, however, shows that massage and electricity, and other physical measures, do much more than merely stimulate the hope and imagination of the patient. They improve nutrition by aiding digestion, assimilation and elimination. That they improve the quality of the blood has been shown by actual investigation. In many cases of hysteria and *hysteroneurasthenia*, and especially the latter, the physical measures employed play a large part, and sometimes a part which is little if at all inferior to the psychotherapy exerted through the personality of the physician. Both the psychic and physical methods have their appropriate places and proportions in the treatment of hysteria.



The differentiation of hysteria from organic disease is to be chiefly made in the first place by the presence of certain phenomena which are pathognomonic of the latter. It has often been said that hysteria may counterfeit almost any form of organic disease, but this is not a correct way of putting the matter. It should be rather said that hysteria may more or less imperfectly counterfeit many forms of organic disease of the nervous system. With regard to these affections about which difference of opinion is most likely to arise, usually the presence or absence of certain well-known symptoms or signs, among which are those which Babinski insists are not present in true hysteria, will be sufficient to settle the diagnosis.

This would appear at first sight to be merely saying that organic disease is to be distinguished by organic symptoms, and hysteria by those which do not belong in this category. The difficulty is that too often the mind of the diagnostician has been in doubt as to what are the intrinsic characteristics of these differing affections.

The most reliance in the differentiation of hysteria from organic disease is to be placed upon a study of the reflexes, and of the manner in which the symptom picture of hysteria usually is exhibited. With regard to the deep reflexes, such phenomena as foot clonus and the Babinski sign—extension of the toes and especially the great toe upon plantar stimulation—are the most important. I have long taught that persistent foot clonus is almost invariably indicative of the existence of organic disease, and especially of disease of the pyramidal system.

In the discussion of a case of hemiplegia with contractures and tremor in the paralytic limbs, presented at the meeting of the Philadelphia Neurological Society, February 22, 1897, the importance of persistent foot clonus was insisted upon as a sign of organic disease. Such clonus was present in this patient and was sufficient, with the full consideration of the other phenomena exhibited, to exclude the case from the hysterical category.<sup>3</sup> Reference was made in this discussion to other cases in which ankle clonus of the persistent type enforced the diagnosis of organic disease, and attention was called to the fact that in some of these cases hysterical epiphenomena were present.

<sup>3</sup> *Journal of Nervous and Mental Disease*, July, 1897, Vol. XXIV, No. 7.

That an abortive or pseudoclonus may be present in hysterical and hysteroneurasthenic cases must be admitted. Gowers has described this as a spurious clonus, and believes that it is due to a half voluntary contraction of the calf muscles. Although this is occasionally seen, it is much more frequently absent than present, and certainly is not to be referred to the same causation as the persistent clonus of organic disorders.

With regard to the Babinski reflex, I find myself fully in accord with the discoverer of this sign, and this in spite of the recent conversion of Van Gehuchten,\* on the basis of an exceptional case, to the side of those who believe that in rare instances both the Babinski response and foot clonus may be present in grave hysteria.

Owing to the high position of Van Gehuchten it would seem worth while to refer to the paper in which he records his change of mind. After an interesting general discussion of the physiological and pathological reflexes, tendinous and cutaneous, Van Gehuchten says that he held to the same view as Babinski until he became doubtful of its validity by observing a case in which, after having made the diagnosis of organic disease because of the presence of these signs, he was led to change his diagnosis and his opinion because of their disappearance in a few days.

He formulates as his final judgment that exaggeration of the tendon reflexes, even going as far as foot clonus, while characteristic of a lesion of the corticospinal fibers, *may* nevertheless be exceptionally met with in hysterical paralysis, and that the Babinski sign is not *always* pathognomonic of a lesion of these fibers, in that the typical extension of the great toe may be observed, however exceptionally, in hysteria. In order to explain his single exceptional case, he reasons that functional disruption or temporary disablement of the corticospinal system of fibers may be sufficient to account for the presence of the clonus and the Babinski sign. He recalls cases observed by him and others in which the Babinski sign was present, and in which no degeneration or irritation of the pyramidal bundles existed or could have existed, cases, for example, of tumor of the brain outside of the motor

\*Van Gehuchten, A. *Le Nevraxe Recueil de neurologie normale et pathologique*, Vol. VIII, Louvain, Uystpruyst., 1906.

system, and of intraspinal tumors compressing the cord and not giving rise to pyramidal degeneration.

In spite of this unusual case and the more or less cogent reasoning of Van Gehuchten, my personal experience has been altogether in favor of the position of Babinski. I do not recall a single instance in which the Babinski sign and persistent foot clonus or either were present, and the case demonstrably not one of organic disease. In making the statement it must be remembered that toxemias, and alterations such as are sometimes found in syphilitic disease, may give rise to temporary disablement of the corticospinal system, but these should be ranked among organic cases.

In some of the cases of tumor in both brain and spinal cord in regions somewhat removed from the pyramidal tract, in which the signs under consideration are present, these may be explained by the pressure exerted by the lesions on this tract.

It is not true that both the deep and the cutaneous reflexes are never disturbed in hysteria. In hysterical cases, especially in those in which anesthesia or hypesthesia is a unilateral sensory phenomenon, a difference is not infrequently shown between the knee jerks of the two sides. Usually, but not always, the kick on the side in which sensation is retained is more marked than on the other side. I agree with Knapp,<sup>5</sup> who in a paper recently read before the American Neurological Association, held that there is often a difference both in the cutaneous and deep reflexes on the two sides in hysterical hemianesthesia and hysterical hemiplegia.

It is a matter of the commonest observation that the plantar flexion cannot be obtained, or only in very slight degree, in cases of anesthesia which involve the foot or feet. Here it may be said that the reflex response is conditioned by the impairment of sensibility; nevertheless this is hysterical, and not until it has disappeared does the normal response return. In not a few cases of typical hysteria without impairment of sensation in the lower extremities plantar flexion is unduly active.

With regard to disturbances of the pupillary reflexes, it must be noted that excellent observers have put on record cases of

<sup>5</sup> Knapp, P. C. Proceedings of the American Neurological Association meeting, held in New York, May 27, 28 and 29, 1909.

iridoplegia as hysterical in origin. These are probably instances of faulty observation or faulty interpretation. It is probable that a toxemia or a transitory lesion like that which is sometimes present in nervous syphilis may be the true explanation. A degree of anesthesia also may play some part in producing a pseudo-iridoplegia, but this is a false and not a true paralytic disturbance.

One of the methods of distinguishing an hysterical from an organic paralysis which is worthy of attention and favorable comment is that of Hoover.\* This observer studied a normal individual recumbent in the dorsal position, and found that whenever one leg was voluntarily raised from the couch the heel of the other exerted complementary opposition by being dug or pressed into the couch. Similarly, in the case of an organic hemiplegia or hemiparesis, when the sound leg is raised the affected leg, in proportion to the power which remains in the member, exerts a similar complementary opposition. In the case of either pure malingering or an hysterical hemiplegia or paraparesis, this complementary opposition does not take place unless indeed the person investigated, being familiar with what is expected of him, executes the test through the exercise of his will. It is easy, however, according to Hoover, in most cases to determine the presence of this sign.

My experience with Hoover's test has been limited but confirmatory of its value. In the hysterical hemiplegic or hemiparetic the affected limb remains passive throughout the test.

For generations most writers on the subject of hysteria have given a place of first importance to emotion in the etiology of hysterical attacks. Illustrations of this statement could, of course, be adduced in large number, but to take only two from recent works of high rank, Dana, in his "Text-Book of Nervous Diseases and Psychiatry," says that "The most important single exciting factor is powerful emotion, particularly fear," and Starr, in his "Nervous Diseases, Organic and Functional," speaks of mental or emotional shock as the chief exciting cause. Many cases have been put on record of the sudden or rapid production of hysterical phenomena or attacks through or apparently through

\*Hoover, C. F. A New Sign for the Detection of Malingering and Functional Paresis of the Lower Extremities. *Journal of the American Medical Association*, August 20, 1908.



the influence of sudden emotions—cases of paralysis of one or more limbs, of anesthesia variously distributed, of severe and prolonged convulsive attacks, of delirium, aphonia and visceral disturbances, all recognized as of hysterical character.

Babinski, in order that his iron-clad definition may not be impaired, finds it necessary to exclude emotion from the causes of hysteria, but to do this entirely is not easy, and it is here, as in some other matters, that his views of the subject show something less than impregnability. He is confronted, for instance, with the necessity of explaining away such a time-honored illustration of the power of emotion over hysterical symptoms and conditions as the sudden cure of hysterical paralysis by the fear of fire which unexpectedly threatens the life of the patient. "Let us," he says, "take another example, that of a woman afflicted with paralysis or with hemiplegia rebellious to all attempts at psychotherapy, who, seeing that the house is on fire, jumps out of bed, runs out, and thus is restored suddenly to health. In this case emotion indeed seems to be the cause of the cure, but on reflection this conclusion becomes a matter for discussion. It must not be forgotten that it is usual to say to such patients that they will one day get well suddenly under the influence of joy, terror or some other moral shock; and it may be presumed that such a prediction coming to mind at the moment of the conflagration exercised a psychotherapeutic influence."

It must strike everyone that an explanation such as this lacks somewhat in force or in ingenuousness. The simplest explanation which appeals to everyone is that it is the sudden and tremendous influence of the emotion of fear which produces the result. It is hardly necessary to invoke the theory that suggestions previously given act as the therapeutic agent. If suggestion plays any part, it is most likely that it is the suggestion of death or great bodily harm, which is suddenly called into being by fear.

Only one additional word need be said in this connection. An emotion capable of thus curing a hysterical paralysis would certainly be capable of producing it.

The hysterical nature of some vasomotor and secretory affections had up to the time of Babinski generally been accepted, and this chiefly because of their frequent association with other gen-

erally recognized hysterical phenomena such, for instance, as those enumerated by Babinski and by Dana. That these affections, among which may be enumerated blushing and pallor, abnormal perspiration and disorders of the alimentary canal, may be produced or exaggerated by suggestion, probably no one will deny. Babinski, however, and correctly in accordance with his dictum, asserts that they are not influenced, or at least not as much influenced, by persuasion as those phenomena which he regards as evidences of genuine hysteria, and therefore are not truly pithiatic. Of course, if it is admitted that only well-marked pithiatic symptoms are hysterical these conclusions must be accepted, but it is somewhat doubtful whether absolute acquiescence should be given to this view of the matter. Admitting the influence of emotion in the etiology of hysteria, no good reason would seem to exist for not including some vasomotor and secretory affections as phenomena, or at least epiphenomena of hysteria. Psychic influence plays a major part in their production and, as has been shown in some experiments upon animals and upon human beings, a like influence upon their disappearance or upon their non-appearance. It is not within the scope of this article to go into the question of the influence of emotional states on the alimentary canal and on vasomotor and secretory phenomena in general, but many observations, recent and remote, have shown the great importance of this influence, and have also shown that morbid phenomena, alimentary, cutaneous and visceral, are frequently observed among the hysterical. The problem may perhaps best be left as at present, not fully solved.

At the meeting of the Paris Neurological Society, held July 4, 1907, in reply to Ballet's query as to how he (Babinski) would explain the fact that the most characteristic manifestation of hysteria, the attack, is generally provoked by an emotion, Babinski spoke as follows:<sup>7</sup>

Even admitting that apparently spontaneous hysterical attacks are always the result of emotion, it is no less true that attacks of this kind may be experimentally reproduced, and the form, intensity and duration may be varied at will; they are thus accidents capable of being provoked by suggestion, and, in consequence, should be ranged with hysteria, in

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<sup>7</sup> Loc. cit.

accordance with the definition which I have given of this nervous condition.

"Further, I think that the rôle of emotion in the genesis of hysterical crises has been exaggerated. Doubtless emotion alone may give rise to such trouble as the constriction of the throat, and the intellectual confusion, more or less pronounced, that is described as belonging to the hysterical attack; but are these not rather physiological reactions which any individual may present?

As far as concerns the most characteristic symptoms of the attack, the opisthotonos, the passional attitudes, etc., there is room to believe that these are less the consequence of emotion than of suggestion, or of imitation, which is a form of suggestion.

It appears to me also quite admissible that in certain cases the emotion, producing a psychic disturbance which diminishes the faculty of control, augments the suggestibility and constitutes a condition favorable to the display of the hysterical manifestations. These are, however, questions which we may discuss forever, for they lead to no definite solution.

But it is incontestable that so-called primary hysterical accidents, particularly the hysterical attacks, whatever be the part belonging to emotion in their genesis, may be reproduced rigorously by suggestion, and they are thus to be distinguished from the emotive pilomotor and vasomotor disturbances upon which I have addressed the society."

Is there not much begging of the question in this reply and explanation of Babinski? Would it not be better to frankly admit the real rôle of emotion in the causation of hysteria than to make the part which it plays indirect in order to escape from a difficult position? Whether emotion acts by direct or indirect suggestion, or in some other way, it plays a part usually in association with other causes, as physical injury, in the production of hysteria, especially of the grave type. To make emotion, however, the most frequent exciting cause of hysteria is as serious a mistake as to exclude it altogether.

It may be worth while, after discussing this question of the rôle of emotion in causation, to cite the views of Oppenheim as to emotional phenomena in the clinical history of hysteria from the last edition of his *Lehrbuch der Nervenkrankheiten*.<sup>\*</sup>

"From all this we may conclude: The foundation of hysteria is an abnormal mental state. The anomalies concern in the first place the affective sphere. There exists a disparity between the intensity of the stimulus and the strength of the emotional reaction, mostly in the sense that the

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<sup>\*</sup> Oppenheim, H. *Lehrbuch der Nervenkrankheiten*, Ed. 5, 1908, Vol. I, pp. 1202-1204.

emotional excitability is exaggerated, and the stimulus-threshold is depressed. To this is due the inconsequence, the incalculable character of the reaction, by which one and the same stimulus may leave the emotional sphere completely uninfluenced, or may set free powerful as well as qualitatively varying emotional states and emotional discharges. Disturbances also are noticeable in regard to the duration and stability of emotional excitation. On one occasion a feeling of dislike, awakened through practically one impression of an idea, may last an abnormally long time, and produce a mood which is morbid in its persistence; on another occasion the emotional process may be manifested with great inconstancy through abrupt, apparently unmotivated oscillations. The 'hysterical capriciousness' (moral ataxia, Huchard) is certainly not a constant symptom, or one occurring in all cases, but in the majority of cases it is clearly marked. Doubtless also a pathological diminution of the emotional reaction ('emotional torpor') may exist, especially in certain cases of suffering."

To the members of this association the relation of hysteria to insanity is a topic of special interest. While no trained neurologist or alienist will make the mistake of confounding the well-known forms of insanity, such as melancholia, paranoia and general paresis with hysteria, even these affections in their lighter forms or earlier stages are occasionally set down as hysterical by the general physician. This is particularly true of hypochondriacal melancholia, neurasthenia sharing with hysteria in the confusion of diagnosis exhibited by the physician. It is, however, more especially from the group of mental phenomena which Janet has marshalled under the term psychasthenia that it is necessary to clearly differentiate hysteria.

This differentiation is really easy if one's conception of hysteria on the one hand and of psychasthenia on the other is perfectly clear. It need not, however, be a matter causing stupefaction, as Babinski suggests regarding a colleague, if some cases of the two affections seem to have analogies. The hysteric, although not frequently, may show obsessions of doubt or fear or other typical manifestations of psychasthenia, and the psychasthenic may, in rare cases, present genuine hysterical stigmata. Having in mind these rare occurrences the diagnosis of one of these now well-defined affections from the other is no longer, thanks to Janet, Babinski, Prince, Donley and many others, a task requiring unusual powers; nevertheless Babinski lays perhaps too much stress upon the values of his etiologico-therapeutic definition of hysteria in connection with the separation of these disorders. Certainly



persuasion, in the sense of proper educational measures, plays an important part in the extremely rare cases in which the cure or great improvement of psychasthenia is possible. The most important point in the differentiation is the absence in pure psychasthenics of the recognized stigmata of hysteria. While, as indicated above, these may be associated symptoms or epiphenomena, on the whole the association or the superimposition is infrequent.

With regard to hysteria and neurasthenia the difficulties of diagnosis arise only in those cases which are poorly studied or in which the genuine symptoms of both affections are commingled. A tendency is shown by some to speak of a case as either neurasthenic or hysterical without due consideration. The symptomatology of neurasthenia is far more complex than that of pure hysteria, but the one condition which dominates the entire symptomatology is that which shows the existence of exhaustion of nerve cells. In this way only are to be explained the fatigue on moderate or slight exertion, mental or physical, the more or less isolated or the widely distributed paresthesia, the exaggerated reflexes, the sexual and vesical weakness, the epigastric pulsation, and the numerous other well-known symptoms of neurasthenia, varying according to the so-called types—cerebral, spinal, cerebrospinal, lithemic, sexual, angiopathic, etc.

Mettler,\* who has written a valuable article contrasting hysteria and neurasthenia, lays much stress on the psychic origin of the former and the histophysiological basis of the latter. It is quite true that in neurasthenia the evidences of cellular change are more apparent than in hysteria, but in the latter one cannot doubt that some change, probably histophysiological, occurs as well as in neurasthenia. In grave cases of hysteria with pronounced anesthesia, motor paralysis and other striking symptoms, this view is not so likely to be called in question, but it is equally correct when applied to milder cases with hypesthesia and light grades of paresis.

The point is not that histophysiological changes or deficiencies are not present in hysteria, but these are not demonstrable as in neurasthenia, and are more under the control of the will than are

\*Mettler, L. Harrison. Hysteria and Neurasthenia: Their Nature and Treatment Contrasted. The Illinois Medical Journal, December, 1907.

neurasthenic phenomena. Even in neurasthenia the will plays no unimportant part, both in the causation of symptoms and as an auxiliary in their relief or cure. I would not, however, have it understood that the part played in the one is at all comparable to that in the other.

As has often been repeated, the diagnosis of hysteria from neurasthenia, as from other nervous and mental disorders, is to be made in the first place by the presence in the former of the universally recognized stigmata or landmarks of the disease. These are not present in neurasthenia in which paresthesias take the place of anesthetics, fatigability of paresis, lack of mental concentration of self-absorption, alterations in power of alterations in character, and so on through a list of well-known differences, such as have been indicated by Mettler.

Dana, in his "Partial Passing of Neurasthenia," has given to the profession the best methods of separating this disorder not only from hysteria, but from such mental affections as psychasthenia, hypochondria and melancholia. He has indeed shown that so-called neurasthenia is in many instances only a sort of understudy of some type of insanity, or the threatening stage of some psychosis, which the patient, under wise management, in some instances escapes.

As Babinski and indeed many others have emphasized, when attempting the differentiation of hysteria from neurasthenia, as from organic diseases and from insanities, the somewhat frequent combination of hysteria with these disorders, mental and bodily, must always be kept in mind. That part of the combination which disappears under the influence of persuasion, Babinski would have us understand, is always the part, and the only part, which can be properly classed as hysterical.

In connection with the discussion of hysteria the subject of simulation is one of the utmost importance. In approaching this subject one must have first clearly in his mind the fact that hysteria is not simulation and simulation not hysteria. Hysteria is a functional nervous disease with certain definite phenomena usually classed as stigmata. Good authorities may differ as to the number and character of these manifestations, but all are agreed as to some of them. The subject is clouded by the fact that while hysteria and simulation are not interchangeable terms,

the hysteric may, under certain incitements, exaggerate or even simulate. The same temperament which gives rise to true hysteria under sufficient exciting causes seems sometimes to induce feigning. A great difficulty then arises—that of separating the fraud or malingering from the genuine phenomena of a disease—whatever the immediate cause and the nature of this disease may be. Wrong may be done by the lack of careful consideration in such cases.

A desire for sympathy is well known to be present in genuinely hysterical persons, and this fact has been observed by many, and as has been stated by a recent writer, leads to “self-inflicted wounds with consequent sores that will not heal, the vomiting of blood sucked from a tooth and swallowed, and high temperature obtained by friction on the thermometer either in the mouth or rectum, emaciation from supposed starvation and vomiting of all food.” (Starr.) To these might be added other manufactured symptoms.

While the existence of such factitious phenomena should put the investigator on his guard, it should not, as some would have us believe, always induce him to regard the whole case as one of fraud. In some instances it is confirmatory rather than antagonistic to the view that the case is fundamentally one of true hysteria. When hysterical convulsions, anesthetics of the classical hysterical type, aphonias, contractures, paralyses, contractions or reversals in the visual field are present in a given case, the existence of affections and conditions which may be assigned to feigning cannot shut out the basic diagnosis of hysteria. Nevertheless cases of pure fraud or malingering should not be classified as hysterical.

Some of the older writers, and careless observers and writers in all periods, have classed as hysterical phenomena clearly due to pure fraud, to insanity or to mistake.

It is scarcely necessary to call attention as instances of pure fraud to cases in which urine or blood is said to have been discharged from parts like the ears, the eyes, the breasts or the navel; to cases in which dismembered spiders or frogs, dead or alive, have been ejected or removed from various bodily receptacles; to cases of ulcerations, eruptions and hemorrhages, so evidently factitious as to need no discussion. Among the examples of

fraud which have been reported as instances of hysterical phenomena are some of the extraordinary cases of anuria and ischuria—those which have been recorded as not having passed urine for one or two months, repeated catheterizations revealing an empty bladder. False pregnancy, sometimes considered in connection with phantom tumors, and spoken of as an hysterical phenomenon, is due rather to mistake, fraud or melancholic obsessions or delusions. Hemorrhages from the stomach, bladder and vagina, while they may occur in the hysterical, are either produced by the patient or are due to causes independent of the hysteria—to bodily injuries, for instance, such as are received in serious accidents. Fever, or rather unusually high temperature, reaching sometimes as high as  $110^{\circ}$  or  $112^{\circ}$  F., and reported as hysterical, is also fraudulent, although in a few instances high authorities have reported such cases as genuine. Other examples of simulated, or rather factitious, symptoms regarded as hysterical are dilated or contracted pupils produced by the use of a mydriatic or a myotic.

Recognizing that simulation and hysteria are not identical or interchangeable, the next question is, how is the distinction to be made between hysterical and simulated phenomena? This query is not so easy to answer, as it may at first sight appear. It is easy enough to recognize, as fraudulent and not hysterical, symptoms or conditions which common sense indicates as impossible of occurrence except through fraud. It is when we come to some of the more usual phenomena of hysteria that the greatest difficulties arise—those phenomena for instance which Babinski unhesitatingly places within the hysterical class—convulsions, anesthetics, etc.

Babinski and others following him lay much stress upon the view that all pithiatic, that is hysterical, phenomena can be *exactly* simulated, and in their writings even convey the idea that this simulation is comparatively easy. This way of looking at the matter should not be accepted too readily. To simulate with great precision the serious phenomena which form the hysterical syndrome in some cases is more or less difficult. Every examiner again and again has seen a patient suffering from hysterical anesthesia evidence this by wincing or by speech at the crossing of the median line, and this without suggestion. Even if more or



less suggestion is exercised in such an examination the exactness with which the change in the appreciation of sensations takes place in the crossing is beyond the power of simulation. The same might be said about contractions and reversions of the visual field.

Babinski would have us believe that moral considerations above all else should govern us in our diagnosis.

It is true that the incentive to fraud, as in litigation cases, must always be borne in mind, but I would rather say that the separation of hysteria from simulation in cases in which genuine hysterical phenomena are apparently present, is to be made by a consideration of the manner in which the patient does or does not present a symptom picture which, however readily simulated in some of its details, is almost impossible of such simulation in its entirety.

It is much the same with hysteria as with insanity; simulated insanity is almost universally recognized as rare by competent observers and writers, that is the simulation of insanity by one not insane. The form of insanity most frequently simulated is that of comparatively simple type, like mania or dementia, and even here it is difficult to thoroughly carry out the feigning. In those forms of insanity which present a more or less complex or elaborate train or system of phenomena, in the typical forms of paranoia for instance, with delusions of persecution or of self-exaltation, the phenomena being peculiarly grouped, simulation is impossible except to one who has intelligence or training and has closely observed the phenomena of the type the feigning of which is attempted. In grave hysteria likewise, where as a rule, although not without exception, the syndrome is made up of a collection or combination of sensory, motor, visceral and psychic phenomena, simulation is almost equally difficult. It is the inexactitude and incompleteness of the reproduction of the phenomena which should most claim the attention of the diagnostician.

In connection with the discussion of the nature and diagnosis of hysteria, the so-called traumatic neuroses necessarily come into prominence. Usually these are regarded as functional nervous disorders in which the elements of hysteria and of neurasthenia, separate or combined, are present. For the purpose of this discussion neurasthenia may be eliminated, although it plays a part of much importance in many of the cases.

Accepting the theory that all cases of hysteria are due to suggestion, the view has gained ground that not only are most of the traumatic cases due to pure suggestion, but that this suggestion in many instances has had its source in the examination by physicians of those injured or alleged to be injured. The rôle played by direct injury in the production of the nervous disorders presented by litigants by some has been belittled almost to the point of extinction. The mental element in causation, as well as in the clinical picture of the traumatic case, has been given a position of importance so great as practically to obscure all other etiological factors.

It is one thing, however, to recognize the psychic element in hysteria and quite another to believe that physical agencies may play no part in its production. In the majority of accident cases actual physical injury occurs, and the extent and character of this often has a determining influence upon the extent and character of the nervous symptoms presented. To exclude physical injuries entirely from the etiology of the traumatic neuroses would indeed be a happy solution for those who are called upon to compensate for injuries received or alleged to have been received, but this cannot be done with justice to all parties concerned. It may be said that such injuries simply act as suggesters, but even admitting this, merely for the sake of argument, they are the most powerful of suggesting agencies.

In examining cases in which injury is alleged great care should, of course, be taken not to suggest to a patient the presence of special symptoms, but even when this is unconsciously or inadvertently done, the clinical picture revealed by the examination is often such as could not be suggested at a first examination. It is easy to understand that a person may have the idea of anesthesia in this or that part of the body suggested by the use of instruments or appliances which are evidently intended to determine the presence or absence of sensation of touch, or pain or temperature; but it is not easy to comprehend that anesthesia thus determined shall extend exactly to the median line of the body or have a peculiar segmental localization. It is easy to understand that a patient may have suggested to him by methods of examination, even an impairment of vision or a diminution of motor power, or some other single, or perhaps more than one, symptom in the

complex of hysteria; but it is not so easy to believe, as I have already indicated, that a train of disturbances, sensory, motor, visual and visceral, can be elicited by a single examination. However these phenomena originate, by examination or by the unaided work of the mind of the one in whom the symptoms appear, even those who hold to the doctrine of suggestion as the active agent in the production of the phenomena are willing to admit their genuineness.

Litigants have their rights and injustice may be done by the too ready acceptance of the doctrine of purely mental or psychic causation in the production of hysteria. Two or three years since an opinion was rendered by the Supreme Court of the State of Pennsylvania which in effect held that damages cannot be recovered for injuries resulting from fright and not from actual physical harm. That fright alone may cause the most distressing result to health, or be even the chief cause of death, in some particular instance, might easily be substantiated by facts which have become historical. In most cases of fright, especially when this comes on in connection with an accident, this psychic phenomenon is itself associated with some serious physical condition and may be directly dependent upon physical cause. Fright assuredly may be an element in those cases in which, as the result of collision or sudden jar or fall, the individual so falls or is so projected as to be bruised or dazed, or otherwise evidently subjected to harm and distress. In these cases, and not improbably in all cases, the central nervous system, and especially certain portions of the brain, are temporarily the subject of important change from their usual normal state. While one may not be able to translate in exact explanatory terms such old and well-worn expressions as nervous shock and cerebral or cerebrospinal concussion, there can be no doubt that some physical perturbation actually occurs before or coincident with the psychic disorder, fright, or whatever else, alleged to be the chief agency in causation.

From the foregoing the following conclusions may be reached:

- (1) Hysteria is a disease called functional, because its material pathology is not understood, although it has such pathology.
- (2) It is a disease which has for its basis a constitutional condition spoken of with more or less accuracy as temperament, neuropathy or degeneracy.

(3) It is a disease which manifests itself by well-defined symptoms, motor, sensory, vasomotor, visceral and mental.

(4) Hysteria may be caused in a variety of ways, the chief of which is suggestion, although emotion, physical injury or disease and other causes may enter.

(5) Emotional phenomena are frequently present in hysteria.

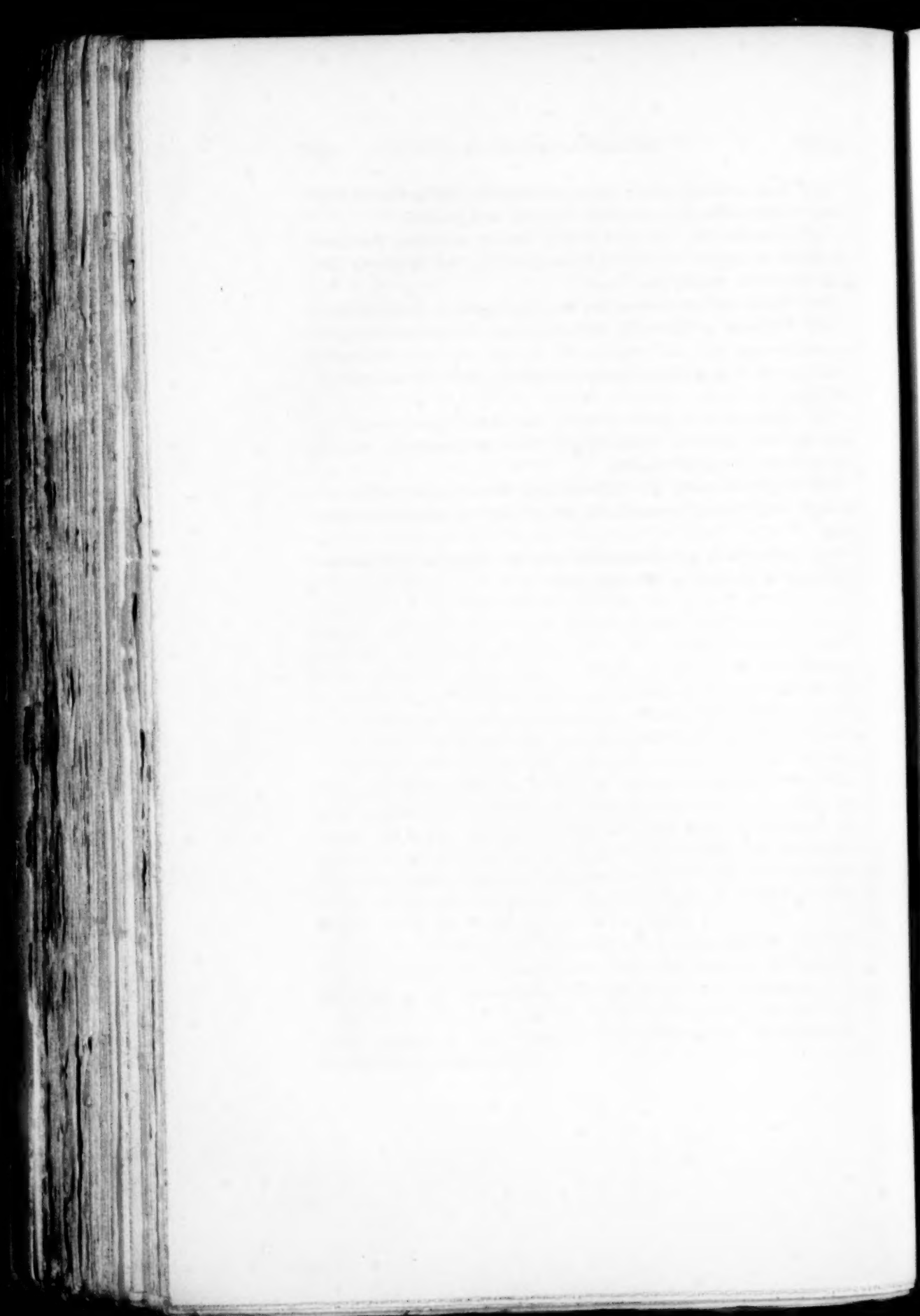
(6) Hysteria is favorably influenced and sometimes cured by psychotherapy, but may require for its cure auxiliary measures, such as rest, drugs, food, massage, electricity, fresh air and change of scene.

(7) Hysteria is a psychoneurosis, not in a technical sense an insanity, and must be differentiated from psychasthenia and all the accepted forms of insanity.

(8) Hysteria must be differentiated from neurasthenia, although hysteria and neurasthenia are often combined in the same case.

(9) Hysteria is not simulation, although hysteria and simulation may be present in the same case.





THE DIFFERENTIAL DIAGNOSIS BETWEEN HYSTERICAL INSANITY AND DEMENTIA PRÆCOX; WITH REPORT OF AN ILLUSTRATIVE CASE OF HYSTERICAL INSANITY.

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In the January number of the *Journal of Nervous and Mental Diseases* we discussed at some length the subject of hysterical insanity and reported several illustrative cases.<sup>1</sup> The diagnosis of hysterical insanity is one which is often attended with much difficulty and uncertainty; but we believe it to be one of real importance, and not merely one of academic interest; for, given a diagnosis of hysterical insanity, the prognosis and treatment are greatly influenced thereby. We pointed out that it is especially difficult to make a differential diagnosis between hysterical insanity and dementia præcox, since both of these affections occur with the greatest frequency at about the same period of life, i. e., in the adolescent period and present many characteristics in common.

Among the cases which we had prepared for incorporation in our previous paper is one which we are reporting in this present communication and which we omitted from that report because at that time the case, to our minds, only brought up questions as to the difficulties in differential diagnosis between dementia præcox and hysterical insanity without answering them. But the subsequent developments of the case have, to our minds, cleared up the diagnosis, and we now confidently look upon the case as one of hysterical insanity. The case illustrates pretty well a number of

<sup>1</sup>In the *Journal of the American Medical Association* for March 4, 1905, Dr. Diller had previously reported four cases of hysterical delirium.

points which may arise in the differential diagnosis between hysterical insanity and dementia præcox and we, therefore, believe it is one worthy of record.

A single woman, aged 25 years, a school teacher, was admitted to St. Francis hospital, April 25, 1907. The patient's sister furnished a long account of her previous illness, which is abridged as follows:

The patient had been in failing health since the spring of 1906. She was always tired and never refreshed by sleep. She had had a number of complaints during the spring of 1906, among them an ear trouble of some sort. At the close of the June school term she was very much run down and very nervous. She could not leave the city because of sickness and death in the family. She returned to her school in the fall; and after teaching two weeks she was compelled to give up. She was under a physician's care until December. By January, 1907, she seemed much brighter and more active, and she went back to school, but against the protests of her sister. Two weeks later she was troubled with noises in her head. She was advised to stop school at once, but could not be persuaded to do so. She was troubled with "biliousness" and constipation. Her bowels were very hard to move. She was very much exhausted in the morning. She was becoming irritable. She suffered severe pains in the head. She complained of "dizzy spots" before the eyes. For a whole week she did not sleep. She drained the contents of a bottle containing a hypnotic solution without securing sleep. She became more irritable and started to cry about small matters. On February 24, 1907, she collapsed after taking an electric treatment. After this she was very weak; and for a time seemed in a sort of stupor or was constantly drowsy. She would seem very much brighter for a few days and then relapse. She continued to complain of pain in the head. She slept only two, three or four hours at night; but her sleep was very sound. She would awaken and jump from bed on account of terrible dreams, in which she was always sinking or falling. She would become "hysterical" and say things that were just imaginary, and burst out crying "very hard and loud." At times she became very cross, irritable and fretful. She commenced to worry for fear she would lose her position at school. When quiet she was in deep thought. "She would think, think continually about school and her ear." At times she became very much depressed, "very low spirited and sad." The doctor examined the ear and found only slight catarrh. The patient now wished to sit by the window on extremely cold days. She wanted to take cold baths, and "never could get air enough." One thing she never lost interest in was clothes, new hats, etc. The physician advised her removal to the hospital

in April, 1907. She was seized with a violent screaming fit when she learned she was to be taken to the hospital, and the attempt to remove her had to be abandoned. A second attempt a few days later was successful. At the hospital she was visited by her sister from time to time, who reported that she would "become hysterical, crying very loud and hard."

The patient came under our care at the hospital, December 1, 1907, and the following notes were made of her condition. She lies on the sofa in careless fashion. Her dress is very untidy. She actively resents the physician's conversation with her and will make no reply to questions, or else a fretful, irritable one. When ordered to get up she will do so in a wilful, irritable manner and betake herself to a distant part of the ward. She lies about in this indifferent manner apparently taking no interest in anything, and apparently holding a strong resentment for all persons of the male sex. She treats the hospital sister very much better. In fact the sister reports that she can converse with the patient very readily and that her conversation is quite sensible, and that she behaves well. Lately (March, 1908) the patient is asking to go home, and she has from time to time promised to behave more civilly toward the physicians. But she forgets this promise when she sees any of them.

A point which has not been previously mentioned should be noted here, namely, that the patient submitted to a gynecological examination several months ago. She was naturally reserved and modest and this was a great ordeal for her. We mention this as it may explain the strong antipathy for the male sex which the patient holds.

The patient is visited by one or the other of her two sisters every two or three weeks. These sisters report that the patient talks to them very freely; and she asks for the latest news and gossip regarding her friends. She manifests a distinct interest in the wearing apparel of her sisters and sometimes asks that a hat be taken off for her inspection; or she will turn up a skirt to examine the embroidery, etc. When her sisters urge her to be more neat in her attire and upbraid her for her carelessness in dress, she replies that she cannot take any interest as long as she is in "a place like this." She protests much against the horror of the asylum and the crazy actions of some of the patients there; but at



the same time, the patient's own conduct is such that she cannot be kept in the best ward of the hospital.

On several occasions the patient has danced with another patient in lively fashion; and she sometimes sings to the piano accompaniment when no men are present.

*Comments* (made a short time before the patient's discharge).—A very striking feature in this case is the marked difference in behavior in the patient toward the doctors and toward the sisters. Her indifference, refusal to converse and carelessness in dress are suggestive of dementia præcox. But, on the other hand, she is apparently much subject to suggestion; and her conduct appears rather as an active perversity rather than a kind of negativism. She can do some things very well sometimes which she persistently refuses to do at other times for other people. The mental phenomena strongly suggest mental perversion rather than mental reduction.

We have been much interested in studying this patient; but we have not yet been able to reach the conclusion as to whether her case should be labeled one of hysteria or dementia præcox; but we are inclined to the former diagnosis. Yet the carelessness, untidiness, loss of emotional feeling and the stereotyped positions of the patient, suggestive of dementia præcox, lead us to suspend judgment as to the diagnosis.

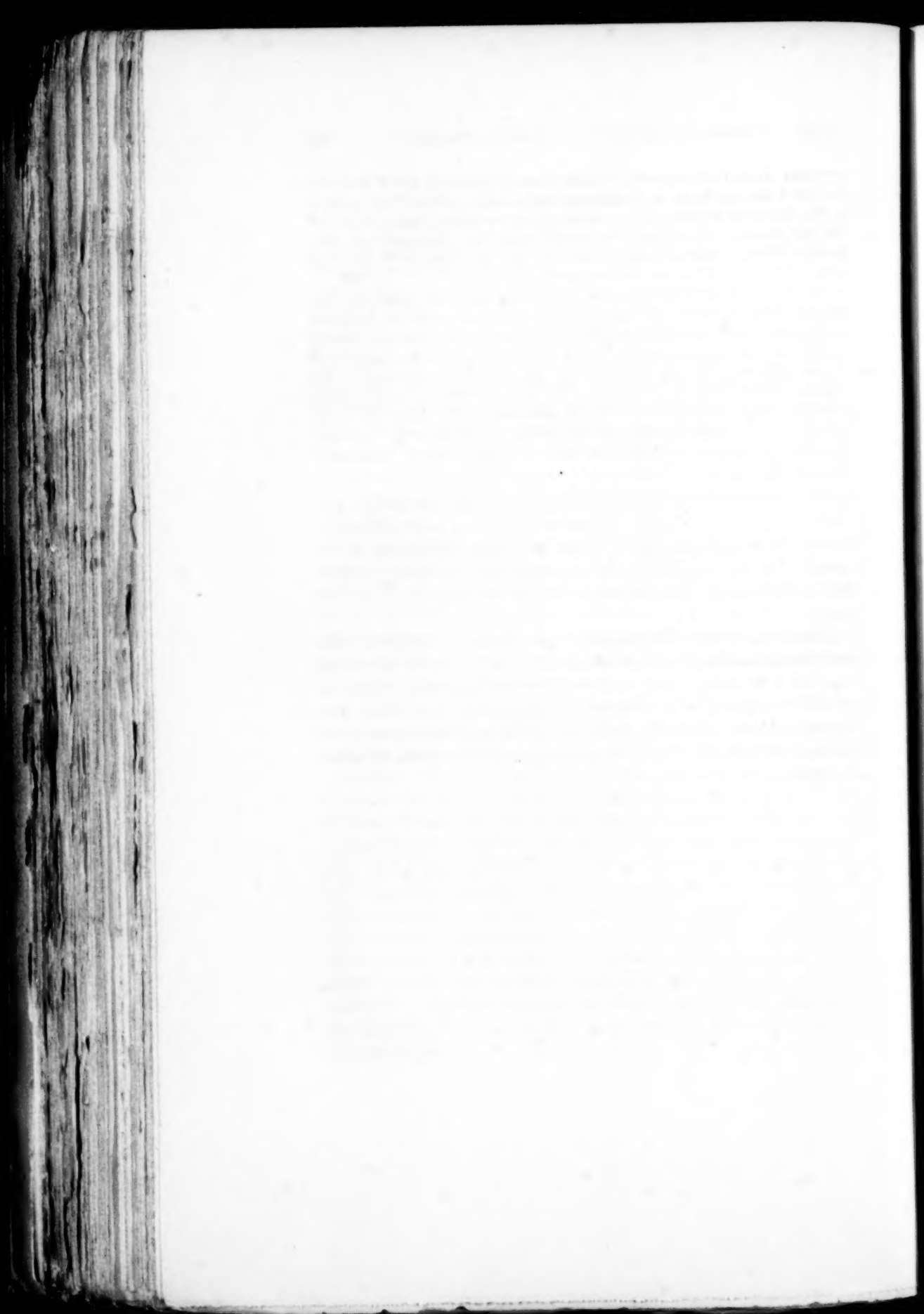
*Subsequent Note, September 11, 1908.*—The patient's condition continued as previously noted; and in this state she was removed from the hospital on June 5, last, after a residence there of about 14 months. She went to live with a married sister in a small town several miles from her old home. Here she at once took an interest in dress and became tidy as had been her previous habit. On the second day after she left the hospital she took upon herself the duty of dusting the house; and ever since then she has shared with her sister the household duties and has appeared to her and the children to be her old normal self. She laughs and jokes; has a normal sense of humor; her dress is tidy; and in short, she appears to her sisters, as just stated, to be entirely restored to health. She makes no reference to the hospital, or to her stay there. But she evidently remembers much of her life in the hospital. She wrote the following letter to her sister two and a half weeks after she had left the hospital:

"DEAR T—: I suppose you think that I am never going to write. In fact I am not much in the humor for writing. Everything up here is just the same as ever. E— expects to come home Friday night, but I'm not positive. I received the tie and clasp and think both are very pretty. Well, I suppose this is all, will try to write more the next time. With love to mother and yourself. M.

"P. S.—In addressing letters don't address them any more as 'M.,' address them 'Adelaide,' as I know some of the clerks at the Allegheny Post Office, and I don't care to have anyone know where I am at. Should anyone ask my address just give them the home address, as I don't care to be bothered with any letters from any person in Allegheny. The children nearly took a cat fit over their blue stockings. Little Louisa took the mirror and held her legs up and admired her blue legs in the mirror. C— wants Charley to take either the three or the five train Saturday afternoon. The children want to come down to the station to meet him."

*July 14, 1909.*—The patient's sister reports that the patient continues to do well at home. She takes an interest in the household affairs and family life and is exact and particular as ever in her dress. She has now been home 13 months and the family consider her quite normal. She seldom refers to the hospital or her life there.

*Additional Note.*—This patient's immediate resumption of what appears to the family a normal attitude after a year's stay in the hospital is certainly a very striking feature of the case; and to our minds it appears as a response to suggestion and offers very strong evidence as to the character of the psychosis from which the patient suffered, which we now believe to have been hysterical in character.



## THE NEURASTHENIC AND PSYCHASTHENIC PSYCHOSES.\*

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The mental disorders which are discussed in this paper are of special interest to the asylum alienist, not because of their frequency, for in our experience at the Buffalo State Hospital they constitute only one per cent of the admissions (twenty cases in five years), but because of the relative lucidity and intelligence of the patients, the readiness with which they furnish a full account of their troubles, and their general amenability to treatment. Concerning the last mentioned point I venture the opinion that for severe cases of neurasthenia and psychasthenia the definite authority and the more or less rigid routine of a State hospital are extremely valuable aids in the re-establishment of will power and self-control. The conditions certainly remove some of the difficulties inherent in the management of these cases in private practice and to a less extent in sanitariums. I do not purpose, however, to discuss the well-worn topic of treatment, either general or psychic, of these disorders, nor yet to repeat familiar theories concerning their nature, causes and symptoms, but merely to present and comment upon the records of a few cases illustrating various phases and types.

It is necessary, though, in the interest of clearness and for the more orderly presentation of my material, to take some account of the question whether we are considering under these heads a single disorder or two fairly distinct clinical forms. While admitting, as we all must, a close relationship between neurasthenia and psychasthenia and recognizing the occurrence of many cases with well-marked features of both, I believe that the subject is much befogged by regarding them as identical, except in the degree of the mental involvement. From a consideration of typical cases, which alone are of value in establishing clinical forms, espe-

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cially in mental medicine, I hold with those who see in neurasthenia a state of bodily and mental fatigue, mostly acquired, dependent on a great variety of causes, manifesting itself psychically by such symptoms as failure of attention and application, indecision, emotional instability, lack of self-control and a feeling of general uneasiness and depression of spirits—together with a host of nervous symptoms comprised under the term "irritable weakness"; and regard psychasthenia as an expression of constitutional neuropathy, relatively independent of fatigue or exhaustion, having mental factors far more prominent in the etiology, and characterized by morbid anxieties, fears and impulses.

I avoid as far as possible going over ground already well covered by Blumer, Collins, Courtney, Schwab and many others in the easily accessible literature of this subject in our own country by restricting myself to a discussion of severer and more complicated cases, most of the contributions referred to having dealt with what I may term the sanitarium rather than the asylum types.

I shall cite first a few cases of the neurasthenic type and then several which I conceive to be instances of psychasthenia; and as these histories lose much of their interest if too briefly sketched, I desire to recite them in some detail.

The first case is that of a young woman in whom the principal cause of the trouble was a severe anemia of long duration. The onset was with hysteriform features, but a relapse during convalescence was characterized by typical symptoms of neurasthenia. An accidental inoculation with Christian Science thought at just the right time had a happy effect, and furnishes an interesting exhibit in the form of a letter written by the patient explaining its operation.

L. M., a single woman, age 33, admitted June 13, 1907.

*Family History.*—No insanity or neuroses. Mother an invalid from rheumatism for ten years. Patient was normal in infancy and childhood. At school she was bright; she graduated from high school. At the age of puberty she became anemic and has never been entirely well since. Her menses are irregular, often absent. She has been regarded as notional and peculiar and nervous, and has had a morbid fear of disease; was recently under treatment by an osteopath. She and her invalid mother lived alone and not very congenially, each jealous of the other's demands, apparently.

*Psychosis.*—Her present illness began in February. She complained of being nervous, did not want to be left alone, demanded a trained nurse.

This not being supplied, she stiffened out in bed, holding her limbs rigid, and lay motionless for nine weeks, usually with eyes closed, rarely whispering a word or two. She had to be spoon-fed and she paid no attention to the calls of nature. In April she came out of this condition and began to walk about the neighborhood, sometimes at night, in a very nervous and depressed state of mind.

*On admission*, patient was very depressed, but she was composed in manner, talked readily and coherently; was quite clear as to time and place and her memory was unimpaired.

She said: "Everything is lost for me—even God cannot help me now. I just have to exist; it is terrible. If I could only forget what terrible things happened to ruin all my hopes! I suffered so much; my mind will go crazy or turn to stone or something."

This hopeless condition was brought on by lonesomeness, by being left alone when she was nervous. God had whispered to her to go downstairs, but she had not obeyed Him, and for that disobedience she would have to suffer in this world and the next. No other hallucinations were admitted. She explained that when she lay in apparent stupor for so long she felt too weak to move, and she did not think her conduct in this or any other respect had been irrational.

*Physical Examination.*—She is of good-sized frame and well rounded, but her muscles are soft and she is extremely anemic. The red cells number 3,600,000, and there is considerable poikilo-cytosis; leucocytes 6000; hemoglobin 35 per cent. Heart action is irritable and a soft, systolic murmur is present. Pulse rate about 90. She is dyspneic on slight exertion. Urine is pale; specific gravity 1010; no albumen or casts. She has slight exophthalmos, but no enlargement of the thyroid. Subjective complaints are: weakness, dizziness, palpitation, sensation of a lump in the throat. Pupils are normal; vision normal, but at times she sees black spots before her eyes. There is some tremor of tongue and hands. Further examination is negative.

The patient improved slowly under treatment with iron and arsenic, hydrotherapy and massage. She continued depressed for three months, but beyond some contrariness and an unreasonable disposition she did not display any marked psycho-neurotic traits. Then she gradually brightened up, and with returning health got into a state that was regarded as nearly normal, but she did not wish to go home and resume her dull life there. In January, six months after her admission, she returned from a visit of several days with friends, not feeling well—tired, suffering with a cold. She stated that she had been out on a very blustery day, and got chilled and exhausted.

After this experience she grew rapidly worse mentally. She was nervous, did not sleep, complained of palpitation, flashes, sweats, excessive weakness. She spoke in a whisper; was unwilling to make the slightest exertion; objected to taking a bath. No improvement occurred until after six weeks, and then it was very slow. At the end of three months she was still in

bed and very fussy, counting her pulse and respiration, harping on her weakness and measuring her expenditure of strength with the utmost care.

A letter, which she wrote to me at this time, describes her condition better than anything I can say. It was written with such faint strokes of the pencil as to be scarcely legible.

"Doctor, if you wish my nerves to get well and strong, as of course you do, please don't ask me to do too large stunts at first, that only frighten me and use up my nerves instead of strengthening them. It matters not in what way, if I overdo, it causes my nerves and heart to get over-tired and sets me back. Up and down the dormitory and sun-parlor was most overwhelming.

"I know, doctor, you mean all right, but you can hardly know how very little I can endure. I know how it is for I have been through this several times before and know perfectly well from years of sad experience. That day when I went over to Mr. P——'s, the wind was blowing fifty miles an hour, and when I reached Forest Avenue I was so cold and numb and tired I felt as though I would drop dead. My nerve force gave out then, I suppose, and I am a bankrupt until my reserve nerve force is restored."

Gradual improvement continued and six months after her relapse she was in a fair way to get well, though not yet rid of whims and attributes of nervous invalidism. At this stage she made the acquaintance of another patient, a woman of culture, who was a Christian Scientist. From her she imbibed an interest in "Science," and the effect was indeed most striking. She announced that she was cured through this agency and given strength and wisdom to keep well hereafter. She became bright, energetic and self-reliant, and was eager to go out and spread the new gospel. So she went home and took care of her mother, assumed other duties, took a new and more cheerful view of life, and at last report was healthy and happy, preparing to get married.

Let me quote from a letter she wrote, announcing her salvation:

"Dear Mother: I have something to tell you as to the condition of my mind and thoughts. It has been now so long, nearly twenty months of that evil, erroneous, dark, wrong condition of my mind. It was hopeless to me. I could see no way out. I studied on my condition as to how I ever got into it, what it really was and whether there was any way of getting out. I thought of it religiously, metaphysically, physiologically and every way I knew how until I began getting the right thoughts, began seeing the truth, the light, the good, and I happened to hear a sentence spoken by a lady which made it all clearer to me—it was just the thoughts I had been arriving at. I began talking with her a bit, and lo, I had worked myself out by the great truth of Christian Science and did not know the principles of it. She is a Christian Scientist and a member of the First Church of Christ, Scientist, here in Buffalo. I began then studying it (I have her text-book, 'Science and Health,' her Bible and quarterly Bible lessons) and it is giving me the right thoughts, showing me the right, the good, truth, life, love, God. These are all synonyms, you know. The science or advanced

thought illumines the Bible—makes it so much plainer to understand what the great Mind, God, love, life, good, truth, right, are.

“My mind was in the wrong condition. I had thought wrong—I allowed the wrong to predominate till I got where I could see no good or God—myself, anybody or anything—when I at last reached what was, of course, just a hell—hell, death, evil, error is a condition of the mind where one can see or think no good—it is not a place way off somewhere—it is within us, just as we can have heaven, eternal life, good, right, God, within us. It is just as we choose—the right thoughts (or right mind, which is God) make us do right and be right, which is happiness forever, but the wrong thoughts of everything make us do wrong and be wrong and there is no hope or happiness.

“I began it years ago, and reached the climax that February, you know; though my body was healthy, my mind got all wrong, and as mind is everything and controls everything, I collapsed entirely—just from wrong-thinking, and hence wrong-doing and wrong-being. If your mind is wrong you will do everything wrong; and all will be wrong. But there is hope and life and good and love and God to him that overcometh the error, the death, wrong, evil.”

My second case, though very unlike the one just cited, is interesting for the same reason, in that it gives us an inside view of an unusual psychological experience, largely in the patient's own words and, therefore, more definite than any general descriptive statements. It is the history of an episode in the life of a neurotic man of middle age, taxed beyond his endurance with work and worry, suddenly collapsing, losing his mental grasp and experiencing the sensation of his personality being split into two divisions—a higher and a lower consciousness, a material and a spiritual.

W. H. S., admitted November 25, 1905, is a man 55 years of age, a skilled mechanic and inventor. His parents and brothers and sisters were nervous, but there is no insanity in his family. His father was a somnambulist and was interested in hypnotism. When S. was a boy he was frequently hypnotized, and several surgical operations were performed on him painlessly while he was in this state. When his father died, he was so upset that he lay in a cataleptic trance with rigid limbs for several hours. He is afraid to witness exhibitions of hypnotism, fearing to succumb and do something absurd. He also dreads to approach the edge of a precipice because of the impulse to jump over. He is a poor sleeper; he has horrid dreams, as of falling; his health was never robust; in several attacks of typhoid and malarial fever he was delirious and “went double.” He has had syphilis, which is cured; and some years ago he nearly lost his sight from nicotine poisoning, having smoked excessively. He has taken a moderate amount of alcohol to brace up on; he is very susceptible to its effects.



He has had the inventor's proverbial bad luck in seeing others reap the profits of his ingenuity, and he has for some years had serious business worries and felt chagrined and disappointed, though holding a responsible and fairly remunerative position. He has overworked and for at least a year has complained of being worn out and of a queer sensation at times in the top of his head. Two months ago he got a pretty severe blow on the head and was rather dazed for several hours.

His present trouble came on suddenly yesterday, following an altercation with his employer. He resigned his position and went home, reaching there in a queer mental state. He said that while on the street something snapped in his head, and he felt the "other fellow" walking beside him. From that time until his commitment thirty-six hours later he was restless and excited; he had constantly the idea that the "other fellow" was beside him. When he went to bed he carefully arranged the covers over "the other fellow"; he would not feed himself, but said: "Give it to the 'other fellow.'" Once he said: "The 'other fellow' will not eat, but I am starving." To his children he said: "I am not your father, there is your father." It took him a long time to dress; he said: "You will have to wait until the 'other fellow' tells me to." When he reached the hospital he went back twice to the carriage to get the "other fellow" out.

The commitment papers stated that: "He looks about in a vacant manner and pays no attention to questions; his mind is a blank; he talks to himself, addressing his brain, which he says is divided into two parts, one of which is his working brain. He complains of being "so tired."

On admission, he said: "I am not Mr. S. The 'other fellow's S." He asked if the "other fellow" was here and was unwilling to go to the ward without him.

*Mental Status, November 26, 1905.*—Attitude and Manner: Patient has slept well during the night; he is quiet and rather drowsy. He answers questions willingly, but as if speaking caused him an effort.

Stream of Mental Activity: He talks quite coherently and gives an excellent account of his symptoms, as follows:

His head went wrong suddenly last Thursday—"No, it was Friday" (correct). His head had been "awful queer" the last 18 months or two years. "Sometimes it felt as if the top brain was congealed." He could not think; his memory would flash away from him quickly; he would feel that he had to have a stimulant—liquor would fly right to the head and relieve the bad feeling, but he would not know what he was doing. He felt "awful tired" for a long time—"not bodily tired, but up here" (touching his head). He said: "If I slept 24 hours it made no difference, I was still tired."

When asked, "Have you any imaginations or strange feelings?" he replied: "Why, I get double, that's all. It seems to me the thinking faculties are separated from the physical. There is some cloud that shuts off all mental activity. The brain is like a great, white sheet on which is recorded every impression during our lifetime, and when that won't unwind again and

come around something is wrong." At this point the patient stopped and said: "The 'other fellow' 's going away from me. I have got to give that 'other fellow' a rest. He has got to go to sleep." He pushed me away, closed his eyes, drew the bed-covering over his head and seemed to go to sleep. In a few minutes he opened his eyes and said: "If the 'other fellow' and I could have a smoke," and then resumed his story. "The brain is dead; it has no life; it feels like one brain above the other. The top brain, which is more useful—the one which works out problems and shows me how to figure my machines and inventions—is hard and dead. The lower is the one that is giving this account. Between the two there seems to be a chasm or film."

He asks for a pencil and draws a diagram, which he calls a cross-section of the skull, showing several tiers of lobes. He says this is the idea which is presented to him by his feelings. On invitation he discusses his business troubles at considerable length, and gives expression to ideas of inimical interests working against him, but makes no statements which are clearly delusional. He denies hallucinatory experiences of all sorts, except, as already stated, in regard to the "other fellow" hallucination.

He has good orientation in time and place, and his memory for both remote and immediate past is unimpaired, with the exception of a period of about six hours, the earlier part of the attack. He recalls nothing clearly from the time he left his office at two o'clock until about eight that evening, when he put his hand into his pocket and found some money which he did not have in the morning. He does not know how he got home—whether he walked or went on a street car. He remembers calling for some papers the next day and giving some directions, realizing that he must put his affairs in order; after that he "kind of sank away again." (His wife stated that he came in about four o'clock, exhausted, looking worried and strange. He said: "I've got something to tell you, but I can't tell you now; I've got to rest awhile." Later he said: "I have lost my job," but she could get no intelligible account from him. She learned afterward that he had left the office at two o'clock, and that he had been fussing with his papers and instruments for two hours before that, and seemed not to know clearly what he was about. He had taken a drink or two during this time and his symptoms may have been due, in part at least, to the alcohol.)

In specific tests he showed good attention and retention, but with evidences of increasing mental fatigue and difficulty in concentration of thought. Calculation was a little difficult, but he could subtract 7's from 100 to 0, in 60 seconds.

*Physical Examination.*—Patient is a man of large frame and good bodily development, but with a somewhat abnormal conformation of the skull and features. His head is very flat posteriorly, ears large and prominent, chin massive and protruding. He is fairly well nourished, weighing 145 pounds. Height 5 feet 10 inches.

As evidence of former syphilis he presents a cicatrix on the foreskin and several scars on the legs. The pupils are equal and react normally to

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As evidence of former syphilis he presents a cicatrix on the foreskin and several scars on the legs. The pupils are equal and react normally to



light and in accommodation; vision and hearing normal. There is no disorder of cutaneous sensibility. The knee jerks and other tendon reflexes are diminished; superficial reflexes normal. He has a coarse tremor of the tongue and fine tremor of the fingers. Heart and lungs normal; pulse 66, regular; arteries a little sclerotic. Evidences of mild gastric catarrh. Urine negative.

Patient was noted three days later as cheerful and quite natural in manner, eating and sleeping well. He says his head feels nearly normal—just a trace of the dead feeling remains. Whereas formerly he might have likened it to a saucer, with the convexity downward, dividing the upper from the lower part of the brain, he now feels only the narrow edge of the saucer all the way around.

The next day he was depressed and gloomy, dissatisfied over his commitment, disposed to criticise his family and the doctor for acting hastily. On the following day again much better, and a few days later a little exuberant, feeling better than he ever did in his life, which his wife said was highly characteristic—he was always either “away up or away down.”

Then he settled down into a more uniform state and in a month was to all appearances quite well mentally, and in much better physical condition. He went home January 3, 1906, after being in the hospital a little over five weeks. A week later, having attempted several hours' work figuring on estimates, etc., he felt a return of the pain and pressure in his head, and had a restless night with broken sleep and bad dreams, but with renewed care against mental exertion he had no trouble of any importance and was discharged recovered.

Mr. S. was seen a few days ago. He is a very intelligent and interesting man, now in good health and quite normal mentally, cheerful, doing much better in a business way. He is actively engaged as head of a company manufacturing a machine of his invention. His cure was completed by a good vacation after leaving the hospital, and more satisfactory business associations relieved him of his worry. He has learned how to take care of himself. Overwork still gives rise occasionally to a numb sensation in the brain, sharply localized in the right parietal region. At first a mere point, if the warning is disregarded this spreads into an area of increasing extent. He does not permit it to get larger than a dime before effacing it by means of a few days rest or change.

The third case in this group presents as the feature of special interest points of resemblance to manic-depressive insanity. It was a second attack, the subject a bright young lawyer of sanguine temperament; there were several attempts at suicide; the duration of the illness was about 18 months.

H. G. R., a lawyer, aged 37, married, with two children, was admitted January 7, 1907, with a psychosis of five months' duration.

His family history is negative. He was always of a nervous temperament and not robust physically. From childhood he has been very bright, ener-

getic and ambitious. At 16 he suffered a nervous breakdown, attributed to overwork and dyspepsia. He went through the high school, studied law and was quite successful in his profession. He did not drink, but smoked excessively. Being optimistic, he got to living beyond his means and was forced to retrench. After selling his home and moving to more modest quarters he was dissatisfied, doubtful of the wisdom of what he had done; he did not like the neighborhood; the house was stuffy; he missed his accustomed walk to the office. He worried, slept poorly and could not attend to business. His brother's approaching marriage bothered him most unreasonably and obsessed his attention; he thought the whole town would be talking about his family—one brother getting married and the other selling his home. His wife said that he had no delusions, but only an unaccountable depression and worry. He was treated in two sanitariums without benefit, and then after several attempts at suicide was committed.

*On admission*, patient is neatly dressed, composed in manner, gentlemanly and correct in speech; he looks depressed, but talks freely, and though in deadly earnest, can smile and speak humorously of his faint-hearted attempts to kill himself, which he says is a "desperately hard thing to do decently and comfortably." He talks clearly and without hesitation or perceptible effort. He considers his case hopeless and is still suicidal. He shows emotion, weeping at times. There is complaint of nervousness in the top of his head—a feeling like cold air blowing on the head or sometimes merely an itching sensation. In the beginning of his illness he would first feel tired in the legs; then a nervous feeling would pass up to the solar plexus and thence to the head. Otherwise he feels in good health, but does not sleep well.

He gives an excellent account of his whole life, as already outlined, and of his present illness. He had been worrying over his financial condition and trying to sell his house advantageously; his brother's marriage caused a postponement of this, and he missed the chance to buy the place he had his eye on—the one he got was not so satisfactory. "Everything looked black" to him—East Avenue did not seem as attractive as before; his mind got clouded; he lost his nerve; his work bothered him; his brother's marriage was what ruined his life; they had to think and talk about it for months—as to what clothes should be bought for it, what presents given, etc.; it took his mind from his business and impaired his efficiency. He had impulses to commit suicide and "would go chasing over" to his father's barn to hang himself, but couldn't get in and would give it up. Regarding his work, he says: "I did not have my former energy and interest—I could not make it go—I was always accustomed to go slambang, but now I could not get up steam."

Patient shows no impairment whatever of memory, and his capacity for mental work, judged by the usual tests, is good. He calculates with facility.

*Physical Examination.*—He is a large, well-developed man, fairly nourished, but somewhat flabby and sallow. The physical examination is practically negative. (After recovery he was 30 pounds heavier and had a

good color; he was, therefore, more out of condition than we realized at the time of admission.)

He improved directly under a course of treatment, comprising a tonic, cold baths, light work and out-door exercise. He gained weight, slept well and was cheerful and energetic. After three months, being apparently well, he was paroled home. There he did not sleep so well and soon got nervous and depressed; he lost self-control under slight stress and "carried on in a hysterical way." He was returned at the end of five weeks, after another attempt at suicide. He was now in about the same condition as when first seen. He said his heart went down into his stomach. That is the only explanation he could give of his relapse; he got upset over a simple business transaction, which should not have annoyed him at all.

He is noted next month as improved physically; eating and sleeping well; often falling asleep during the day; dull, indifferent and lacking energy. He said he felt far less melancholy, and was in what he called a "quiescent" state." A little later he worried much and was emotional. His moods varied quickly from deep melancholy to a rather jolly state, in which he indulged in fooling and banter with his companions; this he said was a sign of extreme nervousness, sure to be followed by renewed depression and a feeling of exhaustion. At this time there was given voluntarily a confession of masturbation, with strong feelings of remorse and shame, and he asked for medicine and closer supervision to help him combat it. The existence of this practice in his normal state was always denied.

The next note shows him more cheerful, but becoming careless in regard to his appearance. He was occasionally observed to walk back and forth, grunting and blowing, perhaps bursting out laughing; once he climbed up a water pipe in the toilet room just to see if he could do it. These actions he explained as not due to excess of animal spirits, but to a nervous tension demanding some outlet.

This second phase of his disorder, beginning with the relapse while on parole, lasted about seven months. Then he underwent quite rapidly a marked change, becoming active, lively and talkative, ambitious, optimistic—returning almost at a bound to what his friends stated was his normal condition, though to us it suggested hypomania. His eagerness could not well be restrained, and after two months of this, as it developed no further but rather abated, he was discharged and went back to active work, which he resumed with good judgment and efficiency. When seen recently, more than a year later, he was in excellent health and free from all nervous and mental symptoms.

This case and others that have come under my observation, which I should like to report if time permitted, have led me to the conclusion that there is a close correspondence between the mental disabilities in neurasthenia and the manic-depressive psychosis. I find that the question of diagnosis as between these two disorders arises more frequently by far than that between neurasthenia and

general paralysis, which is usually stated to be the most troublesome. The eventual rapid recovery with rebound to an over-enthusiastic, enterprising and euphoristic mental state is common in both, as are minor fluctuations of mood and activity in the course of the illness; and this temperamental mobility is very frequently noted in both classes of patients as a characteristic of their normal states, though presenting as a rule somewhat different curves. Furthermore, one does not have to strain a point to see an essential similarity in the difficulty of concentration and mental effort of the one and the psychomotor retardation of the other, especially if one recognizes the frequent occurrence of anxiety in the manic-depressive psychosis and its modifying influence on the retardation of thought and action. This point of view, if it prove to be useful, is something gained from the separation of neurasthenia and psychasthenia as clinical entities, for so long as these are regarded as one and the same disease the relationship I have indicated is overshadowed by the phobias and impulses and other proper symptoms of the psychasthenic state.

The three following cases will serve to show some of these morbid ideas in action, along with the agitations to which they give rise quite characteristically in the psychasthenic psychoses.

The first of these is remarkable because of the onset with a severe delirium following psychic shock. Upon emerging from this the characteristic psychasthenic symptoms came to the front and were predominant for more than a year. A fairly good recovery ensued.

C. F. R. This is a man 60 years of age, married, clerk in a department store. He was admitted January 29, 1907. The family history is negative, except that his father died of apoplexy. The patient is described as an intelligent man, a faithful and capable employee in one establishment for over 30 years, but lacking self-assertion and independent judgment. He is of a reserved and quiet disposition, and has lived a very circumscribed existence, with no diversions and no variety of interests. He is said to be inclined to worry over trifles and to be always on the lookout for trouble, showing in this regard some marked peculiarities; for example, he never left his home without warning his wife to be careful about fire, and she has known him to leave the street car and return to caution her about locking the doors and windows. He has scarcely had strength enough for his work—was always exhausted at night and often equally so in the morning. He suffered with headache, and his digestion was poor. For three years he



has been subject to some kind of fainting spells at the store, but he never had any at home. He was not addicted to drink, but smoked moderately.

*Psychosis.*—Without warning he was given notice of dismissal, for the alleged reason that the force had to be reduced. His lessened efficiency probably had something to do with it. He returned home completely crushed; threw himself on the floor and sobbed; said he was "finished"; spoke of dying. A few days later he found it impossible to write up the books of a loan association which he had attended to for a long time, and got the idea that his accounts were wrong and disgrace was at hand. He made an attempt at suicide, following which he was sent to a hospital, two weeks after the loss of his position. Then he was in a state of active delirium, until committed to our care three weeks later. He had hallucinations of sight and hearing; spoke incoherently; thought his family had been killed; was violent. He had retention of urine and passed feces in the bed; was much reduced physically.

*On admission*, he was feeble, restless, *confused*; he answered some questions correctly, but was, in general, *incoherent*. He expressed delusions of wealth—said he owned the grounds; offered the attendant \$2000.

Under examination the next day he appeared *exhausted and drowsy*; he wished to sleep; when aroused was apprehensive. He showed *marked clouding of consciousness*, with defective association of ideas and difficulty in thinking and acting harmoniously. His voluntary speech was limited to *expressions of fear* or questions *indicating anxiety*: "My wife was killed in a train wreck. Was my daughter drowned to-day? Wasn't my wife burned to death? I am going to be cut to pieces," etc. He again uttered *delusions of wealth*, but without exhibiting a mood in correspondence with these ideas, which were very vague. He was *influenced by hallucinations*—saw angels and heavenly light and heard voices. His *orientation was hazy*; he thought he was in heaven, in a cemetery, in a place to prepare for death; he knew the month, but not the year or the day; thought he recognized acquaintances about him. Memory, attention and retention were all similarly impaired. He had a measure of insight at times.

*Physical Examination.*—A middle-aged man, of slender build, in a poor state of nutrition; no malformations or stigmata; no evidence of syphilis or other constitutional disease. Temperature normal. He complained only of general weakness. The pupils were equal in size, dilated, reactions to light and accommodations normal; vision defective (glasses). Hearing somewhat impaired in right ear. Hyperesthesia of the skin, especially in the legs. Deep reflexes exaggerated; no clonus. Cremasteric reflex absent on left side; other superficial reflexes normal. Speech tremulous and somewhat stumbling; gait and station unsteady (weakness?); fine tremor of tongue and hands. Lungs normal. Heart moderately hypertrophied, forcible in action; first sound impure; pulse rate 54 to 60; arteries sclerosed. Well-marked arcus senilis. Digestive system negative.

In a week he had improved very much, was quite clear as to time and place and could give a correct account of himself, without any evidence of

memory defect, except for the period of his delirium. He was depressed and uneasy, suspicious, reticent, inclined to dwell upon his weakness and nervousness. His manner was peculiar; when addressed he answered hurriedly as if flustered, and he had always a startled, rather wild expression. In another month he was not so well. He had sudden spells of agitation, one of which I observed. He trembled violently, stared wildly, gave a yell and jumped up as if in mortal terror; struggled with attendants for a few moments and then lay back as if exhausted; gasped several times, closed his eyes and whispered: "Oh, doctor, I'm an awfully unhappy man; somebody is after me; it is the devil, I think. Do you remember I said this is the house of death? Oh, I am going crazy." In a few minutes he was comparatively calm, and would answer questions.

He said that he had been worried all his life; that he was sick for a long time before he came here—his work was too hard for his constitution. His present condition is horrible—everything from his earliest youth up crowds into his mind, mostly unhappy thoughts. His mind gets no rest. He is compelled to count continually, anything and everything. He sees visions and hears rumbling and rattling. Here he begins to stare and shake again, but this is brought to a stop by a sharp command. He then looks all around the ward and remarks: "I can see everybody here—there is Mr. A. and Mr. B. and Mr. C.; I can see that plant there; I can see that table; I can see you, doctor." Though much better physically, he insisted upon staying in bed. Being forced to get up and go around, he complained much of vague fears, of a feeling of strangeness; everything looked different—the opposite to what it should. He had to turn everything over in his mind, and to seek a meaning in all that he observed. He was in a puzzled state all the time, with keen realization of being abnormal. He says, to illustrate: "There goes a wagon—that's W. & Co. Now see that smoke over there—that makes me think of the spray over Niagara Falls. I know that is the Allbright Art Gallery over there. Now this morning, when the patients went out, I counted them and there were just 26—that was just my age when I got married; and presently the women came along, 22 of them—that was my wife's age when she married me. Now, why was that? She will be an inmate here pretty soon, I think. Oh, I have been fighting it and resisting it, but I can't stop it—that's the way my mind works." If he tries to read the paper he feels compelled to pay attention to the divorces, scandals, murders and other disagreeable items, each of which distresses him, because he is sure to recall someone of the same name, or one like it, or at least he knows some person on that street or in that town. He figures out some connection, no matter how strained the relation. If he turns to the magazine, everything looks upside down—no sense in it. If he looks abroad the prospect appears dim and gloomy, even when he knows that the sun is shining. He is haunted by the idea of suicide, though he does not want to kill himself; this is worse, since another patient made an attempt of which he has heard. He saw the figure of a man in his room at night, who held up a sheet and showed him how to hang himself with it.

These symptoms disappeared, gradually, until at the end of six months the patient appeared to be very much better. He was in good health, as a rule cheerful, pursuing a certain routine of work with alacrity and apparent satisfaction; interested in and even enthusiastic over baseball, and enjoying reading. No further admission of any abnormal thoughts or feelings except a vague fear and nervousness at night, but he lacked confidence in himself; had a helpless feeling in regard to outside responsibilities and preferred to remain in the hospital. Regular out-of-door employment during the summer was of decided benefit. He acquired more self-assertion and spontaneity, and when discharged, September 30, 1908, after one year and eight months' treatment, was in better mental and physical health than in several years prior to his illness.

Mr. R. was seen recently and found to be very well, in spite of failure to get regular employment. He takes life more easily than formerly, appreciating that worry was what overcame him. He now tells of a previous nervous breakdown at the age of thirty-one, less severe and of shorter duration. No history of sexual excess or preoccupation at any period is obtainable in this case.

The following case is a good illustration of the minor rôle played by fatigue and bodily ill health in the etiology of the type of disorder now under consideration, and emphasizes the psychogenic factors and the constitutional basis.

P. N., first admitted May 23, 1898. Patient is a wood-carver, aged 32, married, has four healthy children.

*Family History.*—Parents normal. A maternal aunt was insane and a paternal uncle committed suicide. A sister suffered from "nervous prostration." His brother and another sister are normal.

*Personal History.*—Patient was born in Germany and came to this country at the age of 14. He is a good workman, of temperate habits, and until recently has enjoyed excellent health and been in good spirits. For two or three months he has been melancholy and nervous; could not sleep; lost weight.

*On admission,* he is greatly depressed and agitated, weeps and makes despairing gestures. He accuses himself of responsibility for the misfortunes of others, and fears indefinite calamity for himself and family—his child will die because a child of the same name died; the whole world is against him; he is to be cut to pieces, etc.

In the hospital he tried to strangle himself and beat his head against the floor. He improved after the first month, but slowly and with recurrences of depression. He was noted as hypochondriacal, nervous and unstable, easily upset and discouraged, lacking in self-confidence. His principal complaints were headache and insomnia. He was much benefited by regular outdoor work. Discharged recovered, after 11 months.

*Second admission,* February 17, 1908. His wife stated that he remained quite well for seven years, but in the past two years has had several mild

attacks of depression. He takes more alcohol than formerly and uses tobacco to excess. A year ago he consulted an oculist because of black spots before his eyes and now wears glasses. The present severe attack began a month ago, and is similar to the previous one, but with more pronounced delusions. He accused his wife of sexual relations with a dog, and says she bore a litter of pups. He was agitated and apprehensive, feared his brother-in-law would kill him; ate and slept poorly; attempted suicide.

*On admission*, the patient acted as before; he tossed about in the bed, moaned, grasped his head, cried loudly. He said: "I can't get the thoughts right—peculiar ideas come into my mind which I can't help; I haven't any feeling at all—I'm living and that's all." The disgusting idea about his wife and a dog comes into his mind and he cannot banish it; she is a virtuous woman and he knows she could not be guilty of such a thing. He declared that he was a disgrace to the world—his children would all be insane—it was all his fault for having practiced self-abuse in his youth.

He denied hallucinations, but had several times imagined that he heard footsteps of persons coming into the house to kill him. He was oriented and his memory was good, but his attention was preoccupied and calculation was difficult and exhausting.

*Physical Examination.*—A well-built man in good nutrition—height 6 feet, weight 164 pounds. Complaint of "numbness all over" and a heavy weight on his head. Pupils somewhat dilated, equal, good reactions; vision and other special senses normal. No objective disorder of cutaneous sensibility. Tendon and skin reflexes normal; hands tremulous. Thoracic organs normal. Tongue coated; bowels constipated.

For two weeks there was little change; then he rapidly improved and was soon cheerful and active, eating and sleeping well, working, talking about going home, wondering how he could have gotten into such a state and had such distressing ideas. The suggestion of his wife that he seemed well and might now get back to work upset him when he was apparently doing well at the end of three months. The thought of assuming responsibility gave him a "panicky" feeling, and he again had insomnia and was depressed. He complained of many bad feelings—his right leg felt "loose like" and, later, stiff and unnatural. He wanted to know if we considered him a paretic, and explained that his legs felt that way after he had observed a paretic whose legs were affected. He remarked that the trouble in his own case was doubtless imaginary, and that he was inclined to let his mind be controlled by notions. Other complaints were: that he had a dry fever; felt hot from the stomach up to the head; was forgetful, "kind of uneasy," over particular—whatever he did had to be "just so" and he was always afraid he had not done it right.

He went back to bed and stayed there; said: "I am down and out—all weakened out—my manhood all gone—I have no confidence in myself." He talks at great length about his symptoms and his worries, and as usual refers to sexual practices in earlier life.



In this and subsequent periods of depression he furnished very detailed information concerning insistent morbid ideas bothering him since he was a boy. He would be at his work on the farm and suddenly there would come over him a terrible feeling of loneliness, or an uneasy feeling that would impel him to drop his task and go to his mother. He was bothered less in this way as he grew older, but a change came over him about a year before his first commitment; he was run down in health and suffering from stomach trouble at that time. Since that time he has never been entirely well, but has had some trouble "in the back of his mind." He says: "I get two different kinds of feelings. Sometimes I feel well and bright and happy, but even then there is always in my mind the thought that something might turn up to make me unhappy again. I get pretty near the top notch, but not quite." Now, every time he visits his home something "strikes his mind" to upset him; he gets a distressed feeling at the pit of his stomach that "gives intensity to his thought," also a slight, uneasy feeling in the forehead, "in the thinking apparatus."

Since his first breakdown his work has bothered him; a reproof from his foreman made him so nervous he could scarcely do anything; a nail or a splinter in the wood he was carving annoyed him; he had trepidation about undertaking each new task, whereas formerly he wanted the most difficult pieces to do. He has been troubled, too, pretty constantly, with vile, dirty thoughts and imaginations obtruding themselves in his mind. He scrutinizes his younger children and cannot rid himself of the unworthy suspicion that they are not his; a dimple in the chin of one reminds him of his brother-in-law and leads to the thought that his wife may have had relations with this man. That idea accounts for the fear of him exhibited at the beginning of this attack. The idea of his wife and a dog he traces back to a time when they were children together, and her father had a big dog which in play would jump on the children and knock them down.

The history, from the date of admission to the present time, is a succession of variations as above described. He is robust in appearance, an excellent worker, intelligent, brisk, trustworthy on parole when he is feeling well; and for weeks at a time one would have difficulty in detecting anything wrong with him. But let him be subjected to any possible stress, be thrown on his own resources or called on to make a decision in any matter, and all the symptoms recur. Allow him what he asks for and he is pretty sure to change his mind and decline it, on the ground that on thinking it over he has become nervous and distrustful of his ability to do what he had proposed. So, for example, a trip to the summer cottage had to be given up at the last moment; and innumerable instances, many of them ludicrous, could be given of his vacillation and indecision. This weakness is so well recognized by himself that he has repeatedly advised us not to grant any of his requests, no matter how strongly he may urge them; and so far as possible this is the plan adhered to.

To conclude this series a case of "compulsive insanity" is reported, in which, owing to the prevalence of epilepsy in the family and the sudden appearance and disappearance of the morbid mental symptoms, the question of its relationship to *petit mal* has been raised.

S. B., a married woman, age 29, born in England, was admitted January 2, 1904. She had a *bad family history*, her mother, a maternal aunt and a sister being epileptic, and her father having died of tuberculosis. The patient is somewhat deficient in general intelligence and may be noted as "constitutionally inferior."

*Personal History.*—She had mumps in childhood and diphtheria and measles since she grew up. She was married eight years ago; her husband is alcoholic. She has borne four children; two were still-born, one died a few hours after birth, the fourth (now 20 months old) is healthy. Nine years ago, when she had diphtheria, her two sisters died of that disease. During her convalescence she was morbidly depressed and wanted to commit suicide; this attack lasted two months. She had a second attack of depression two years later, lasting a few weeks and disappearing suddenly; this time she was not suicidal. Her third attack was 20 months ago, when her third child was born, just previous to which she was severely ill with measles. The mental symptoms came on suddenly, a week after her confinement. She felt sad and worried and had a strong impulse to kill the baby. Again she got well suddenly, after three months, and remained well until the onset of her present, the fourth, attack, eight weeks ago. The trouble came on when she was worried over the child's trifling illness. At first she had a persistent impulse to kill the child, and later to kill anybody. She fought against the feeling, wept much, begged to be watched and prevented from doing it. Upon awaking in the morning the impulse to kill was stronger than at any other time. She threatened to kill herself in order to keep from killing anyone else.

*On admission*, the patient was in good general health, with the exception of some gastric indigestion and various abnormal head sensations. The physical examination was negative; her height 5 feet  $\frac{3}{4}$  inch; weight 121½ pounds. She was somewhat undersized, but well developed, and presented no stigmata of defect.

*Mental Condition.*—She was depressed, with good realization of her trouble. She talked intelligently, had no delusions or hallucinations, was entirely clear as to time and circumstance, and had a good memory. She gave an excellent account of her symptoms, describing the homicidal impulse as overwhelming in intensity, and affecting her like some compelling force external to herself. When the trouble started she felt a heavy weight on the back of the head, then a drawing sensation in the same region, and later a frontal headache. Sometimes the head had seemed to be opening up. She feels nervous and sometimes has twitching of the arms and legs, but has not lost sensation in any part.

There was immediate improvement, owing to a sense of security in the hospital, but she continued depressed—having to worry about her home and anticipating a long absence from it. At times the bad feelings recurred, with pressure in the head, which she once said felt as if "ice water were dripping on the brain."

She was paroled home in April and discharged in June, apparently quite recovered. She was *readmitted within a month* with the same symptoms as before, and we learned that while at home she continued to have recurrences, but controlled herself until she no longer felt the restraining influence of the parole.

Patient was now very emotional, thoroughly discouraged; she again suffered from indigestion and had vomiting spells. Her head felt like it contained blood or water rushing from behind forward and drifting down; the top of the head seemed to be drawn up into a peak; the brain felt cold. There was dull headache, at times severe; no dizziness. The course was as before, but improvement was more uniform and rapid this time. She seemed much benefited by glasses correcting refractive error. At the end of three months she was again paroled, and four months later was discharged recovered, February, 1905.

Patient was *admitted for the third time* in December, 1905. Her condition was the same as before. She stated that during the first three months at home she was still annoyed at times by the bad feelings; then they suddenly left her and she was free until their equally sudden return eight weeks ago, caused no doubt by worry over her husband's intemperance and bad conduct.

It will suffice to say that she was again discharged in good health and spirits, April 15, 1907. She has now spent two years away from the hospital, during which time she has borne another child, and notwithstanding this and other adverse conditions she remains very well.

I had intended to discuss as a part of my topic the differential diagnosis of psychasthenia from dementia præcox, in which traits of this psycho-neurosis are so common; but as I lacked space to include cases illustrating this difficulty I merely refer to it here.

In our series, constituting the small percentage of admissions noted at the beginning of this article, no cases are included which showed progressive deterioration, no matter how marked might be the obsessions or corresponding symptoms. This care I am inclined to think is not universally exercised, and the lack of it engenders confusion.

## SOME ORIGINS IN PSYCHIATRY.<sup>1</sup>

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### VIII.

It is with relief that we emerge from the Slough of Despond of theopathic mediævalism and approach the threshold of the modern era.

In the last session we had arrived at the seventeenth century, which represents a transition period from supernatural empiricism to the rational objective study and treatment of disease. As might be expected, we find expressed in the writings of seventeenth and eighteenth century authors, many startlingly inconsistent and incompatible opinions, not only among contemporaries, but even in the works of the same observer, many curious examples of commixture of the old and the new, of inherited superstition and tendencies toward independent investigation which give to the period the character of an age of paradox.

Humanity was still tainted with the belief in devils; that they entered into the bodies of men to produce madness; that insanity was a crime, and the lunatic an enemy to society. Inasmuch, therefore, as alienation was traced to causes outside the laws of nature, it followed that it should be treated by supernatural or extra-natural means. These were two-fold. On the one side stood the priest with the authority of Jehovah, who had declared, "Thou shalt not suffer a witch to live." He was, moreover, under the direct admonition of the synoptic gospels and the charge to the apostles that they should go about the country and cast out devils. But prayer and fasting no longer sufficed, and the demons of madness were overcome by scourge and rack, by ordeals of fire and water, by imprisonment, the scaffold and the stake.

On the other side stood the pseudo-scientist, likewise with extra-natural methods of treatment, which although no less absurd were

<sup>1</sup> Continued from Vol. LXV, No. 1, July 1908, page 101.



far less cruel than those of the church. He dealt out mysterious potions, consulted the stars, observed days and seasons and relied upon magic formulæ and mystic ceremonies. Thus did the astrologer, the alchemist and the necromancer vie with the priest for the control of his victim, and what mad humanity did not suffer at the hands of the one, was visited upon them by the other.

A mingling of old prejudices and beliefs with new and emancipated trends of thought is conspicuous in the lives of all who were active in the transition period of the Renaissance. Luther was as much a slave of demonology as any of the Roman clergy. PLATER, although recognising the brain as the seat of mental disease, believed at the same time that morbid impulses were the temptings of the devil. A few years later SENNERT (1572-1637) attempted to modernise the ancient humoral theory and suggested the toxic origin of the psychoses. "This malady," said SENNERT, speaking of mania, "must have a specific and obscure cause somewhat resembling poisons, and of such nature that it may be produced by certain venomous substances. Some of these in fact induce delirium, and it is beyond dispute that numbers of persons have become maniacal through drinking certain philtres."<sup>3</sup> SENNERT was a conscientious observer and his clinical descriptions often emulate those of ARETAEUS and SORANUS; and yet this same man spoke of "demoniac mania." The curious circumstance is that he did not surrender before this demoniac mania as something lying beyond his jurisdiction, and his opinion is peculiarly significant of the transition we have been discussing. "One must not think," he wrote, "that demoniac mania is inaccessible to remedial agents. The treatment should produce such an effect in the patients that the demons finding them no longer suitable for their domination will abandon them of themselves." The question whether the bodies which had thus been rendered unfit for the habitation of devils, would still be suitable for the uses of their natural owners, SENNERT does not discuss. However, the interesting point is that here for the first time was an attempt made to combat supernatural powers by natural means. It was one of the characteristic vagaries of the epoch.

A few years later still in the same century, TH. BONET (1620-1689) practically freed himself from the chains of superstition and

<sup>3</sup> *Opera omnia*, Venice, 1641.

fear. Omit one short phrase from his creed and it stands approved to-day. He declared, "I attach no significance, or *next to none*, to the art of magic, but attribute all rare and unusual occurrences to nature and to the presence of diseases which we do not sufficiently understand. Hypochondriac patients experience many discomforts which they assign to supernatural causes; herein, therefore, they discover miracles and lay the blame for their ills on the shoulders of demons or magicians. Human credulity yields so readily before those two dread names that their influence in controlling our destiny is acknowledged." With BONET reason prevailed, and yet the lingering frailty of the age caused him to allow a slight qualification in favor of the supernatural to creep into his otherwise progressive science.

Among the quotations from earlier authors with which the work of BONET<sup>\*</sup> teems, is to be found an interesting letter written by MANARDUS to a melancholiac friend. In it occur these pregnant sentences: "If it be thy wish, thou shalt easily recover thy health. Trust not to drugs, albeit fetched from distant borders, nor call to aid the power of Aesculapius. Thou hast within thyself the antidote, nor can anyone play the part of physician to thee better than thyself."

Thus we see that even the therapeutic letter is not new under the sun.

An interesting experiment was made in Paris in 1667. DENIS treated a young man who had lost his mind through an unfortunate love affair, by transfusing into his veins the blood from a calf. The patient was cured of his madness, but died later of a fever. It was possibly on this latter account that the remedy did not become the vogue.

During the eighteenth century the promises of the earlier transition period were approaching realisation. Hitherto the facts of psychiatry had been limited to an objective symptomatology. The pathology and physiology of alienation were lost in extravagant speculation. As HEINROTH tersely observes, "From HIPPOCRATES to BOERHAAVE, the gall was the only recognised cause, melancholia and mania the only recognised effects, and evacuation of the noxious matter the only recognised method of cure." The four humors handed down to posterity by GALEN held undisputed,

<sup>\*</sup> *Medicina septentrionalis collectitia*, Geneva, 1684.

through all the mediæval epoch, the chief place in physiology. Increased or diminished in amount or perverted in quality, they had continued to play the essential rôle in the attempted scientific explanations of mental disease; and it was not until nearly the middle of the eighteenth century, chiefly through the philosophic theories of STAHL, that they were finally given their place of right in the cabinet of medical curiosities.

From henceforth the way was comparatively clear. The foundations of a new pathology had already been laid by BONET, WILLIS and MORGAGNI; beginnings were made in the correlation of anatomic and clinical facts; insanity was generally looked upon as disease of the brain; demons and hobgoblins retreated with the approaching dawn to the protecting gloom of the sanctuary; and the modern science of psychiatry began at last to take form.

#### IX.

Previous to the close of the eighteenth century, national schools of psychiatry, as we now know them, did not exist. So far as a school may be said to have existed at all, there was but one, the Graeco-Roman. Physicians of all countries were still close disciples of HIPPOCRATES and GALEN, and in their writings often did little more than to reflect, both in method and matter, the teachings of their ancient masters. The age of specialism had not been reached, and such authors as gave their attention to diseases of the mind merely devoted to them certain chapters in their treatises on general medicine.

The modern period in psychiatry numbers hardly 150 years, and is punctuated by three significant events, occurring roughly at half-century intervals.

The first of these was the launching of the new science by CULLEN in England during the third quarter of the eighteenth century. The second was the far-reaching humanitarian movement which swept over Europe about the year 1800, and which set on foot revolutionary reforms in the housing and treatment of the insane. The third event was the final and complete divorcement of psychiatry from empty philosophic and theologic speculation, as exemplified by the triumph of the Somatic school over the Spiritualists about the middle of the last century.

The development of national schools has been the characteristic

of the modern epoch. Almost at the same time beginnings were made in France, England, Germany and Italy. To England, however, belongs the honor of priority.

WILLIAM CULLEN (1712-1790), the founder of the English school, sought to establish a psychologic basis in the normal workings of the mind, for the study of mental derangement. Starting with the premise of LOCKE, "*Nihil est in intellectu quod non antea fuerat in sensu*," he proceeded as follows: "Judgment is determined by sensation, and volition is the effect of judgment. Moreover the relation which exists between sensation and volition is always effected by means of the brain and an act of judgment, and one can, therefore, hardly doubt that this act of judgment depends on certain movements which take place in the brain and on various modifications of these movements. As to the nature of these phenomena we are still in ignorance. It has not been possible to demonstrate that any part whatsoever of the brain is more concerned than any other in the act of judgment. We have no idea of the part taken in this operation by the different portions of the brain. Our data being thus limited, it is obviously very difficult to determine the particular cerebral conditions underlying the various states of our intellectual functions. These physiologic considerations should precede, however, the examination of the derangement of the functions of the intelligence. Although each portion of the brain doubtless has a special significance of its own, it is, nevertheless, necessary for the organ to act together as a whole in order that the judgment may remain intact."<sup>4</sup>

Equally significant further are the deductions of CULLEN concerning sleep and dream states: "The nervous energy is of different degrees of intensity and mobility in different circumstances, for example, in waking and sleep or in the states intermediate between the two. In the moment which precedes complete slumber or complete awakening, the ideas have a remarkable uncertainty and imperfection. Must we not look for the cause of these false perceptions, these confused associations of ideas, these erroneous judgments, in the inequality of cerebral excitation, in the unequal waking states of the different parts of the brain? Reason and the operations of judgment can take place only by the orderly and exact recollection of those ideas which should be associated; if one

<sup>4</sup> Cullen: On the Derangements of the Intellectual Functions.



part of the brain, therefore, becomes inactive, recollection can not readily occur, while if the excitation or movement in other parts becomes more active, false perceptions, false associations of ideas and false judgments result. During sleep the difference in the degree of repose of the different portions of the brain produces dreams. The state of madness is nothing else than such a situation prolonged. In the first instance the cause being transitory, its effect is likewise unenduring; while in the second the cause is persistent and produces disorders more or less considerable."<sup>\*</sup>

The phraseology of CULLEN is not quite that of the present day, but in these broad conclusions the fundamental truths of mental pathology are plainly set forth. The later doctrines of cerebral association and localisation are clearly foreshadowed, the mechanism of hypnagogic hallucinations is suggested, the significance emphasised of dreams in their relation to abnormal mental states, and although until recently this field has been sadly neglected by psychiatrists, the views of CULLEN have been brought forward again with valuable results (1907).<sup>\*</sup>

Most important of all, however, in its suggestive and guiding influence upon the subsequent progress of the science, was the clear recognition that the *ultima causa* in every case of alienation is endogenous; that sensation, judgment, volition, are bound together as links in a chain of sequences, that these functions are resident in the brain and that a disorder of one function determines disorder in those dependent upon it, the result being a mental disturbance of varying character according to the exciting circumstances. In other words, insanity is not a visitation from without; it does not transform the patient into another being with new and foreign qualities, but its symptoms are to be translated in modified terms of the normal psychic functions, whose study, therefore, must be the indispensable condition for the understanding of morbid states of mind.

In his scheme of classification, CULLEN cast the die of which nearly all later systems have borne the impression. All mental diseases he grouped in three grand divisions for which he retained the time-honored names, *mania*, *melancholia* and *dementia*. He followed ARETAEUS and his successors in defining mania as universal madness and melancholia as partial madness. For dementia

<sup>\*</sup> Loc. cit.

<sup>\*</sup> Jung: *Psychologie der Dementia Praecox*.

he established the criterion of mental weakness as measured by defects in the faculty of judgment. As varieties of melancholia he described panophobia, nostalgia, erotomania and demonomania. In this last word we see the idea of the popular mediæval delusion perpetuated, but the demonomania of CULLEN stood for nothing else than a symptomatic subgroup of a well characterised psychosis.

CULLEN differentiated three classes of dementia:

(1) *Innate Dementia*, including all cases of conspicuous congenital defect in intelligence.

(2) *Senile Dementia*, and

(3) *Accidental Dementia*, under which latter were classed the various so-called secondary or terminal dementias, the *démences vesaniques* of the French, and also the primary dementias later known under the name dementia præcox. In all the attempts of the period at classification, we find this general scheme preserved.

#### X.

During the latter half of the eighteenth century there sat upon the throne of England an insane king. From this twenty-seventh year, George the Third was the victim of recurrent attacks of insanity in the form of severe maniac excitement. He suffered no less than five such attacks, from the last of which, coming on at the age of 72, he did not recover. During his periods of alienation he was shorn of his kingly authority and his person committed to the charge of keepers.

At this time the old heroic methods of treatment were still in vogue. Fetters and stripes represented the mechanical therapy of insanity, bleeding and purging constituted the symptomatic measures, and psychotherapy was applied in threats and intimidation. Indeed CULLEN, the advocate of enlarged liberty for the insane, and of gentler forms of mechanical restraint than the chains and manacles then in use, declared the efficacy of inspiring fear and inflicting chastisement, and even in some cases, of corporal punishment. The straight-jacket was a familiar friend of George the Third, and stories, doubtless true, gained currency that in his violence and antagonism toward his keeper, the latter had bestowed blows upon him, and had even knocked down his royal person, an indignity a king ought not to suffer.

These things were done with the sanction of the king's physician, the Rev. Dr. FRANCIS WILLIS, who also maintained a private establishment for the insane where the vagaries of the mind were combated by blisters on the legs and blows on the head.

The recurrent illness of the king brought home to the minds of the English people in forcible manner the problems of the treatment of the insane and the management of the institutions where they were safeguarded; but although Parliamentary committees repeatedly investigated the subject, their labors were barren, and it was not until the close of the century that effectual steps in the humanitarian movement were taken.

In three countries almost simultaneously this movement was set on foot, and first of all in Italy. It is a noteworthy fact that Italy, the home of the Inquisition, the foster-mother of inhumanity in the misguidance and persecution of the human mind, should be the first to recommend kindness and clemency in managing the mentally deranged, as well as hygienic and sanitary measures in the regulation of their daily life.

Thus it was that CHIARUGI, the physician, atoned after three hundred years for the mischief of Innocent, the pontiff.

CHIARUGI (1759-1820) began his activity of reform in 1788, when he assumed the directorship of the asylum of St. Boniface in Florence. Through a wise foresight, CHIARUGI had been called upon to supervise the planning and construction of the institution, which may, therefore, be said to be the first of modern hospitals for the treatment of the insane—the first of those beneficent institutions of our era in which madmen are no longer huddled together or placed in solitary confinement as criminals, outcasts and social derelicts; but where they are looked upon as human beings and fellow creatures, and where in addition to receiving intelligent medical treatment they are vouchsafed those conditions of environment which make most surely for their restoration.

While giving full credit to the services of CHIARUGI, we must, nevertheless, ascribe the chief impetus in the humanitarian movement to his great French contemporary, PINEL (1745-1826). Up to the close of the century, whatever progress had been made in psychiatry had been in the observation of cases and the collecting of clinical material. Symptoms had been described and causes discussed, but the practical side of the question, after all the most

important, namely, the patient's point of view, had been strangely neglected.

PINEL not only appeared at the psychologic moment—he was its very expression, the inevitable reaction of the circumstances among which he was placed. In his character of reformer and friend of the insane, we owe him partly to the French Revolution and partly to a distressing accident which had deeply touched his sympathetic nature. In 1785 a favorite pupil, having lost his reason as a result, it was said, of over-study and “excessive temperance,” escaped one evening from his father's house. His mangled body was found next day in the neighboring forest where he had been destroyed by wolves. So profoundly was PINEL affected by this tragic event that he turned his attention henceforth to the study of the disease which had cost his young friend his life. Eight years later he was made physician-in-chief at the venerable hospital of Bicêtre.

To appreciate the magnitude of the work accomplished by PINEL, it is necessary to know somewhat of the state of affairs at Bicêtre when he assumed control, and on this point I shall quote some words from the eulogy pronounced by M. PARISET in his honor before the Royal Academy of Medicine at Paris, in 1828:

“In spite of the reforms attempted under the most humane of all kings, the hospitals of the capital were still in a deplorable state of barbarity. The one which presented the most revolting aspect was the institution at Bicêtre. Vice, crime, misfortune, infirmity, diseases the most disgusting and the most unlike, were there confounded under one common service. The buildings were uninhabitable. Men covered with filth cowered in cells of stone, narrow, cold, damp, without air or light, and furnished solely with a straw bed that was rarely renewed, and which soon became infectious—frightful dens where we should scruple to lodge the vilest animals. The insane thrown into these receptacles were at the mercy of their attendants, and these attendants were convicts from prison. The unhappy patients were loaded with chains and bound like galley slaves. Thus delivered, defenceless, to the wickedness of their guardians, they served as the butts for insulting raillery, or as the subjects of a brutality so much the more blind as it was the more gratuitous. The injustice of such cruel treatment transported them with indignation; whilst despair and rage, finishing



the work with their troubled reason, tore from them by day and night cries and howlings that rendered yet more frightful the clanking of their irons. Some among them, more patient or more crafty than the rest, showed themselves insensible to so many outrages; but they concealed their resentment, only to gratify it the more fully. They watched narrowly the movements of their tormentors, and surprising them in an embarrassing attitude, they dealt them blows with their chains upon the head or the stomach and felled them dead at their feet. Thus was there ferocity on the one hand, murder on the other."<sup>7</sup>

These were the conditions PINEL had to face. "Are you yourself become mad," asked Couthon, "that you would unchain these animals?" "I am convinced," replied PINEL, "that these patients would be less intractable were they not deprived of air and liberty."

When we remember that PINEL entered upon his duties during the most dreadful days of the Reign of Terror, when every innovation incurred suspicion; that moreover he had no power to institute reforms except by authority of the awful Commune, before which he had the courage to appear repeatedly to plead the cause of his unfortunate patients; further, that his very desire to grant a degree of liberty to the insane, thrown promiscuously as they were with prisoners and convicts, made him at once a suspect; that, in consequence, he was at least once arrested and narrowly escaped with his life; that his every act was watched; that he exposed himself to the displeasure of the Commune in refusing to turn over certain patients under his care who were charged with being enemies of the State—remembering all these circumstances, we are enabled to form some conception of the character of the man, and of the significance of the mission he fulfilled.

In two years Bicêtre was transformed, and PINEL was called to perform a like office at the Salpêtrière. In 1801, the year 9 of the Republic, appeared his *Treatise on Mental Alienation*, which must be set down as an epoch-making book. From a clinical viewpoint it reflects the teachings of CULLEN, whose works PINEL had translated into French; but its chief importance and value lie in the fact that it embodies eight years' experience in the new régime, both in the treatment of patients and hospital administration, and standing as it does at the threshold of the nineteenth century, it

<sup>7</sup> American Journal of Insanity, January, 1846.

stands also at the portal from which modern psychiatry as a practical science issued forth.

In England, up to this time, the state of affairs had been no better than PINEL had found in France. The asylum at York and Bethlem Hospital in London, unenviably immortalised by Hogarth, were the homes of injustice, cruelty and flagrant abuses, no less revolting than those described at Bicêtre. It is a sufficient comment upon the internal arrangements at these places to recollect that the opprobrious term "bedlam" is merely a contraction of the name of the notorious London hospital.

The reform was initiated by WILLIAM TUKE in 1792, the very year in which PINEL's appointment at Bicêtre took effect. But how different the circumstances under which the two men worked! While PINEL was visiting his patients within the walls of Bicêtre, the massacres of the Commune were drenching the stones of Paris with blood; meanwhile, far to the North TUKE was peacefully coming and going, in an atmosphere of quiet and calm, for the Retreat at York, in which he ministered for twenty years, was founded and controlled by the Society of Friends, and its work of humanity expanded under their fostering spirit of benevolence.

Thus for the first time in history, by the efforts of TUKE in England, PINEL in France and CHIARUGI in Italy, was the treatment of the insane as a class directed in wholesome channels. The effects for good of this movement cannot be overestimated. By its two main accomplishments—the separation of the strictly criminal class from the insane, in the commonly accepted sense, and the bringing together of the latter under proper hospital conditions—many purposes were furthered which are too patent to require discussion. But besides the direct and immediate effects of promoting the present welfare of a considerable proportion of the population, and of assuring a hopeful future to many otherwise doomed to a life of wretchedness, it is to the hospital idea set forward a hundred years ago, more than to any other factor, that we owe whatever of scientific progress the century has brought forth. Only under the conditions then created have the satisfactory study of the disease and the accumulation of the many new facts now at our disposal been possible. Thus in a double sense must we associate the turning from the eighteenth to the nineteenth century with the real establishing of the course of modern psychiatry.

## XI.

There remains to consider the third event in this recent epoch, that marked by the death of HEINROTH in 1843 and the appearance in 1845 of the text-book of WILLIAM GRIESINGER. This event was the final definition of the place of psychiatry among the sciences, its recognition as co-ordinate with the other branches of medicine and the definitive banishment of metaphysical and theological speculations in investigating the nature of insanity.

The spirit of supernaturalism which dominated the primitive period has never died completely. The church in her thirst for domain has ever had an envious eye on the alluring field of medicine. Long after internal medicine and surgery had been wrested from her grasp, she clung tenaciously to the practice of treating infirmities of the mind. Were not her ministers indeed divinely commissioned as physicians of the soul? But in this field, too, since the Renaissance she has been conducting a losing warfare. During the latter part of the eighteenth century she was partially superseded by the great philosophers of the period, KANT, SCHELLING, LEIBNITZ and their contemporaries, under whose influence the science of mental medicine was seriously retarded. KANT pronounced the plain doctrine that the philosopher is a better judge than the physician of abnormal mental states. Thus was the thought of two generations directed backward, counter to the lines of advance laid down by the Hippocratic school, the only difference being that the retrograde influence had exchanged the garb of theology for that of metaphysics.

The result of this struggle was the rivalry, during the first half of the nineteenth century, of two schools of psychiatry—on the one hand the Somatics, on the other the Spiritualists—who attempted from opposite view-points to determine the nature of the psyche and its pathologic variations. For the Spiritualistic school mental disease was a primary affection of the soul itself, and physical disorders, if they appeared, were but secondary manifestations. The Somatics, on the contrary, asserted that a primary disease of the soul was unthinkable and that every disturbance of the mind must have some definite bodily cause. Maintaining rigidly the doctrine of psycho-physical parallelism, they held that every possible physical ailment might lead to a corresponding morbid mental expression, the mental symptoms being, however, in each case secondary.

But the noise of strife between Somatics and Spiritualists has long since died out in medical circles. The Spiritualists were driven from their position, the Somatics won the day, and established what we believe to be the abiding criteria for the pursuit of the science of mind. As the years have passed, however, the teaching of the Somatic school has undergone gradual modification, and we behold monistic tendencies encroaching more and more upon the earlier dualism.\*

But let us return for a moment to the teaching of HEINROTH, the chief representative and the last of the Spiritualistic school, at whose death died also the moralising tendency in psychiatry, let us hope for good and all.

HEINROTH (1773-1843) set out with the artificial distinction of a good and an evil principle, which he assumed as specific, independent and constant entities. Life becomes teleologic, and represents continually the result of the conflict between these two principles. The pestilential doctrine that man is by nature inclined to evil was the cornerstone of HEINROTH's system. However, "Purity and integrity in human nature, while by no means unattainable, are attainable only by the religious point of view, and we know no other true religious standpoint than that of the redeeming faith which Christ brought into the world and the apostles spread abroad."†

Here we have a clear statement of scholastic dogma which constitutes the foundation of HEINROTH's psychiatry. Page after page of his text-book, published in 1818 while he was associate professor at Leipsic, we pore over, fancying that we are in the depths of some mediæval treatise on theology. His psychology

\* An interesting attempt at reconciliation between the hostile views of the early nineteenth century was made by GROOS, who declared that mutual infirmity of both *soma* and *psyche* was the underlying essential of alienation. GROOS taught that the normal mind expresses itself in a constant striving to realise that which we call good. The weakening or absence of this striving constitutes the first condition of insanity, and this factor he designates the "psychic negative." To this psychic negative must now be added a "somatic positive," that is, some form of organic abnormality, in order that the mental balance may be shaken and a psychosis result. Mental disease is, therefore, a "psycho-somatic" affection.

[*Entwurf einer philosophischen Grundlage für die Lehre von den Geisteskrankheiten*, 1828.]

† *Lehrbuch der Störungen des Seelenlebens*, 1818.



he draws from the gospels, much as others have attempted to reconstruct geology from Genesis. The life of mental health is the life of piety. The etiology of madness is sin. Repentance and a return to faith are the means of cure.

"Whatever one may say," exclaims HEINROTH, "there is no mental disease, except where there is complete defection from God. Where God is, there is strength, light, love and life; where Satan is, weakness, darkness, hatred and destruction everywhere. An evil spirit abides, therefore, in the mentally deranged; *they are the truly possessed.*"<sup>10</sup> Anticipating the charge that this is an absurd opinion, he neatly justifies it by saying that it is no more absurd to hold that the insane are children of the Devil than that the righteous are the children of God. "In short," he concludes, "we find the essence of mental disease in the partnership of the human soul with the evil principle—and not merely in partnership, but rather in its entire subjection to the latter." This is the complete explanation of the lack of freedom or unreason in which all the mentally disturbed are involved."<sup>11</sup>

As we should expect, HEINROTH combated the innovation of PINEL in allowing a degree of liberty to his patients, and suggested instead confinement and moral lessons.

Views such as those we have just been reviewing are happily seldom heard to-day, and then usually from but two sources, namely, from certain quarters of the church, and from patients who are suffering from depressive psychoses.

The appearance in 1845 of the work of GRIESINGER<sup>12</sup> (1817-1868) was the death stroke of moralistic psychiatry. This is the first of the older books which smacks of modernity. In various editions it was a cherished authority for more than thirty years, and is of practical value to-day. No more startling contrast could be found than between the works of HEINROTH and GRIESINGER. The latter, basing his science upon the psychology of HERBART, brought together as had never been done before, careful clinical observation, psychologic analysis and the study of physiologic and pathologic changes.

<sup>10</sup> The italics are introduced by way of comment.

<sup>11</sup> Heinroth consistently entitles his text-book "Diseases of the Soul" rather than of the mind.

<sup>12</sup> Loc. cit.

<sup>13</sup> *Die Pathologie und Therapie der psychischen Krankheiten.*

With GRIESINGER the reins of Hippocratic teaching were at last fully recovered. Again came recognition that mental disease and brain disease are synonymous; and as both are determined, like other forms of illness, by natural causes, so are they to be investigated and treated by natural means. GRIESINGER emphasised the necessity of studying the brain changes associated with the psychoses, and recommended the anatomical spirit as the safest antidote against the Spiritualistic doctrines, which he was pleased to refer to as the "anointed pectoral psychiatry."

GRIESINGER was the first to urge the erection of special psychiatric clinics, as we now know them. He was keenly alive to the need of enlightened instruction in mental disease as a part of medical education, and was an earnest patron of reform with regard to the legal status of the insane. In short, the broad paths which GRIESINGER laid out are those which psychiatrists have since been following, and the goals he indicated are precisely those toward which we are still striving.

In his own country realisation has gone far, but on this side of the water, unhappily, many of the distressing circumstances of which he complained more than sixty years ago, have still to be reckoned with. Are we not compelled to admit that the following words, written the fourteenth of August, 1845, are only too true even to-day? "The neglect of psychiatry among physicians, and particularly in the universities, shows daily its unhappy consequences. They appear in the diagnosis and treatment of fresh cases on the part of practitioners, to whose care the mentally ill are entrusted, often long before they are brought to the alienist in the hospital. Still more conspicuous are these effects in the forensic activities of physicians. The State which permits no one to apply a bandage until he has demonstrated his ability and practical experience, allows physicians who have never seen a mental case, or perchance for the first time on arriving at court, to debate offhand, over the head of the accused, the subtlest questions concerning doubtful psychic states, and to declare an opinion which may determine a death sentence or acquittal. The absolute uncertainty of such judgments has rightfully brought them into disrepute with the jurists."<sup>44</sup>

The facilities of instruction in mental medicine have considerably

<sup>44</sup> Loc. cit.

widened since GRIESINGER's day, and are constantly expanding; but the world is perhaps grown no more honest than it was, and one feels a subtle sympathy with the aforesaid situation, when some of our twentieth century expert testimony comes to mind.

The clinical psychiatry of GREISINGER was modelled in general after that of CULLEN and PINEL. He recognised three great groups of psychoses:

(1) Conditions of psychic depression, including hypochondria and melancholia, with both stuporous and excited forms.

(2) Conditions of psychic exaltation, including maniac and other states of excitement.

(3) Conditions of psychic weakness, including confusional states, paranoid conditions and various dementing processes.

This classification has, through the natural development of the science, long been superseded; but it was in large measure the clear insight of GRIESINGER, brushing aside *a priori* arguments to make room for *facts*, and upon the basis of these facts constructing a scientific system in which should be correlated the data of anatomy, pathology, physiology, psychology and bedside observation, which opened the way for the phenomenal growth of the end-century school, which has brought psychiatry such a good step onward.

## XII.

We have finished a rapid survey of some of the achievements of mental medicine during the past three thousand years, closing with the establishment of what we may speak of as the current period of the modern epoch, embodying the work of the present and the last generations. Within the narrow limits of such a review, it has seemed better to select a few of the more conspicuous names and more significant movements and to dwell somewhat upon them, than with greater haste and brevity to pass over a multitude of facts and names. The arbitrary choice of this method must be the excuse for many considerable omissions, particularly in dealing with the modern epoch.

With three general observations we shall take leave of our subject.

First, we have seen that psycho-pathology and theology have always lived in uncomfortably close relations to each other. In

the beginning, and later during the Dark Ages, both the symptomatology and therapy of mental disease reflected the ascendancy of religious ideas. Since the days of HEINROTH these ideas have vanished from our therapeutic standards, while they painfully persist as a potent factor in the symptomatology of insanity. The thought-values of a people are for the most part cast in the minds of the learned few. They are then gradually, slowly taken over by the masses of the people and become part and parcel of common consciousness. Once so assimilated, they cling with extraordinary tenacity, even long after they have become obsolete among the leaders of thought. Such has ever been the case in the history of the succession of religions and the transformation of religious ideals. In Christianity there are two particular doctrines: namely, that of the native helplessness and wickedness of the human individual, which must be atoned for, vicariously or otherwise; and that of the fear of the wrath of God which shall visit vengeance if such atonement be not realised. And these two doctrines, so pernicious in their possible influence, among the credulous, upon the healthy balance and normal euphoria and joy of living, so entirely out of harmony with the rationalistic spirit of the twentieth century, still lurk in the public mind, and often dangerously near the surface. In many hapless patients they furnish the chief bloom of their psychotic flora. With the gradual spread of rationalistic modes of thought among the people, and the implied dying out of belief in the oppressive dogmas of so-called orthodox religious systems, we may perhaps hope for the final elimination of this particular element of morbid potential.

The second observation concerns the growth of our science in broad terms. In accordance with the circumstances just referred to, we find that psychiatry at the beginning of the nineteenth century was practically at the point where it was arrested during the early years of the Christian era. But the spirit of inquiry is never totally extinct. With the erection of suitable hospitals for the accommodation of mental cases, every opportunity was offered for the scientific study of insanity. Under the guidance of the theory of psycho-physical parallelism, the facts of the new science began to arrange themselves in order. Anatomy, physiology, pathology, psychology, all contributed their parts; the concepts of etiology and pathogenesis have come to have somewhat more definite mean-



ing; and the way has been opened for intelligent attempts at prophylaxis, the highest object in any field of medicine.

Finally, a third observation, by way of closing tribute to the masters of other ages. In reviewing the various clinical descriptions of disease, we are often struck by the modernness of ancient views, or more correctly, the antiquity of alleged modern views. A single instance shall suffice. We have seen that the mutual relations of affect depression and exaltation, described by KRAEPELIN under the term maniac-depressive insanity, have been known from the earliest times. The close association of these states or their unity in a single disease was discussed by ARETAEUS in the first century A. C. ALEXANDER of TRALLES in the sixth century voiced a similar opinion. SENNERT in 1641 referred to the possible alternation or succession of phases of depression and maniac excitement. WILLIS in 1667 expressed the definite view that mania and melancholia are so closely related that they may mutually replace each other, or that one condition may take on characters of the other (mixed states). In 1684 BONET spoke of the succession of these contrasting states, as for example in a patient who was maniacal during the summer and melancholiac during the winter. BONET even proposed calling such conditions "maniac-melancholiac" insanity. BOERHAAVE in 1739 repeated the ideas of his predecessors regarding the association of depressive and excited states. MORGAGNI in the same century insisted upon the impossibility of distinguishing frank clinical pictures in every case, so often did the symptoms of one phase alternate with, succeed or mingle with those of its opposite. LIEUTAUD in 1765 declared the opinion, so often heard before, that mania is only an exaggerated stage of melancholia. PINEL in 1801 entertained independently the same views. GRIESINGER in 1845, in his chapter on melancholia, said, "The transition to mania, and the alternation of the latter with depression, are very common. Not infrequently the entire illness consists in a cycle of both forms, which often succeed each other with complete regularity." Thus at length culminated the two most familiar functional mental abnormalities, after a progress of eighteen hundred years, in the *folie circulaire* of FALRET (1854), and the maniac-depressive insanity of KRAEPELIN.

## CONSCIOUS EPILEPSY.\*

By L. PIERCE CLARK, M. D., NEW YORK CITY.

As a general rule loss of consciousness occurs in grand mal epilepsy some time during the fit or spasm. In slight seizures, that of minor epilepsy, consciousness may merely be impaired or even retained. This statement should, however, include also the minor or partial attacks of Jackson's and Bravais'.

Cases of so-called genuine grand mal epilepsy have been reported at rare intervals with full retention of consciousness by Newmark, Doussin, Radcliffe, Reynolds, Maxwell and Tamburini. Careful analysis of these rare cases, however, usually leaves much to be desired in the completeness and genuineness of the attacks. Even though one admits these cases as idiopathic epilepsy and not hemiplegic epilepsy, one is forced to believe that the cases are idiopathic epilepsies with local or Jacksonian onset with a regular order of muscular march. Indeed every grand mal attack must have a local onset; the march of the fit is so rapid, however, that detailed study is usually impossible. A localized maximum irritability of the cortex must be postulated in most cases of genuine epilepsy. Notwithstanding we have a perfect right to shift the burden of proof for the loss of consciousness in genuine idiopathic epilepsy (no adequate explanation for that phenomenal mystery is yet at hand), one may summarize the theory of the general loss or retention of consciousness in epilepsy as follows: In minor epilepsy the cortical discharges are either too slight in degree or too slow in cortical discharge to abolish consciousness. In partial convulsive epilepsy the discharges may be both sudden and severe in degree, and yet, because a part of the cortex is left functionally intact, consciousness will be preserved in greater part. Moreover, even in so-called genuine grand mal epilepsy, as in my cases, the complete involve-

\* Read at the sixty-fifth annual meeting of the American Medico-Psychological Association, Atlantic City, N. J., June 1-4, 1909.

ment of the whole body in convulsion, providing there be a regular order of march in the fit, still admits of consciousness being more or less completely retained throughout the attack. Here we must suppose that the brain gains a certain degree of preparedness for the attack and consciousness is not so much disturbed but that memory of the important event of the fit endures in the after conscious state. The manner of return to full normal consciousness after the fit furnishes not a little clue whether memory of what transpired in the fit will be recalled. The analogy of the amnesia following dreams is a case in point. Thus most dreams are forgotten on waking; the vividness of a dream does not mean it will be remembered. In a close analysis of many epileptics one finds plenty of evidence that a sort of cerebration goes on in many fits, as in ordinary sleep; in both but a small part of the cerebration may or may not be consciously preserved.

The majority of epileptics undoubtedly recall that they have had seizures, although in many cases this would be inferred from their sensations, attitudes, etc. The more violent the convulsive movements, the longer the after stupor, the less is remembered. These considerations, however, concern not so much the retention or abolition of perception in the attack, the object of our thesis, as retrograde or ordinary amnesia with partial return of memory. This latter phase is only a part of our special problem. Even though complete abolition of all reflex activity in the fit does not obtain, consciousness may be entirely lost; it can not therefore serve as a criterion. The reverse of this is seen in the trance state. Again, the corneal and pupillary reflex may be retained in grand mal and consciousness may not be retained. Adequate proof is equally difficult from the standpoint of recollection.

Finally, we may summarize our views as follows: Those cases of epilepsy in which consciousness can be fully proven to persist in the attacks are either minor epilepsy, petit mal epilepsy, epileptoid states or psycho-motor equivalents, partial or abortive epilepsy of organic or non-organic origin, or, not epilepsy at all, but one of the many protean types of grand hysteria.

Bearing these remarks in mind, I shall now cite briefly three very unusual cases of convulsive epilepsy with full retention of consciousness. I have carefully studied these cases for several years.

CASE I.—L. B., 17 years old. Epileptic and neurotic heredity. The patient was robust and apparently normal until she developed epilepsy at 13. Her idiopathic partial attacks developed in the right arm, starting from the biceps. She has an epileptogenic zone area, as marked in this picture of the patient. Any slight irritant in this area precipitated an attack whenever the centers were ready for the fit. The attacks may be prevented for a time by keeping the arm quiet and free from irritation. These partial attacks were invariably followed by transitory exhaustion palsy, both sensory and motor in character. The attacks could be inhibited in part by day, but occurred twenty or thirty times a single night. Inasmuch as the patient had no mental stigma of epilepsy, never lost consciousness in attacks and bromide increased the number of attacks per day, the condition was thought to be hysteric in character, with an hysterogenic zone. The above condition had been present for about two years when I first saw the attacks. The attacks, which had now become general, were as follows. I saw several hundred of them and the following was typical.

The patient is awakened out of a quiet, sound sleep by a tonic spasm or cramp in the right biceps. The spasm quickly spreads in a few seconds in the following order of march: right arm, right leg, left arm, left leg and face. The spasm is then a slow gyratory contortion, throwing the patient from the bed, the eyes are wide open and staring. The attack ends in a few coarse choric spasms, during which latter phase the patient may be able to prevent injury to arms and hands by clinging to the bed. Tongue is bitten and urine is voided. The patient is then able to relate all details of what happened in the attacks. In several of these attacks the patient was able to answer simple questions and give directions for holding her and protecting her with clothing while in this highly dramatic type of fits. The breathing is labored and the conversation is necessarily fragmentary. The attacks are painless, in sharp contrast to Case III. In about one-tenth of the entire number the patient is totally unconscious in the attacks and has no after recollection of the fits.

An unconscious attack is as follows: Patient, as before, was awakened from sound sleep by the biceps contraction, the shoulders were elevated and the head was drawn down and forward on the chest, then the shoulders were lowered and the arms were abducted from the body. The right wrist was flexed toward the body, the fingers were in *main en griffe* position throughout the tonic period for five or six seconds. Pupils were dilated and irresponsive as usual. Consciousness was maintained up to this point as usual. The fury of the clonic spasm, more than usual, increased suddenly in violence at this point. The left hand was broken from its grasp on the bed rail and was thrown about wildly, clutching at the air. The feet in equino-varus were crossed, the face became cyanosed, patient said, "No use! no use!" and immediately lost consciousness. Eyes rolled upward and inward, urine was voided, and frothing at the mouth in stertor period followed. To those who believe loss of consciousness is necessary, the epileptic genuineness of the last-described attack must be fully convincing. Taken by themselves, appalling as they were, I am sure no one



would hastily designate the attacks of the first-described epilepsy as *minor* epilepsy. It is true they were a little less severe, as a rule, than the last-described, where consciousness was lost, but this was by no means always the rule. The case is also one of the very few illustrating the presence of an epileptogenic zone.

CASE II is that of a young man of 18, who has had idiopathic grand mal attacks since childhood. Mental state, feeble-minded. He has had prolonged periods of status and post-epileptic exhaustion. The attacks, as may be seen from the accompanying photograph, are general and grand mal in character. The order of march of the fit was too rapid for analysis. It seemed to start in the right hand and face first. In the attack photographed here, one of thirty for that day, the patient answered many simple questions, told me the attack pained him in the right arm, that his head ached and that his "neck was breaking." His utterances were not distinct, as both sides of the face were in rigid spasm at the time. Tongue was bitten and urine was voided.

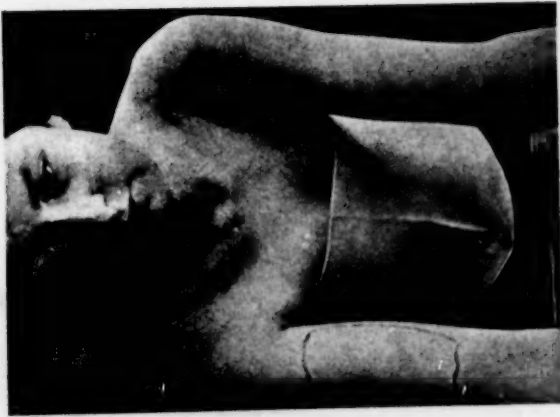
CASE III is that of a young man of 24, of epileptic and neurotic heredity. His grand mal epilepsy, of unknown origin, began at twelve years of age. The attacks continued weekly for one year, then ceased altogether for three years. The epilepsy reappeared at 16 and continued to occur three or four times a year until he was 23 years old, at which time the ordinary grand mal epilepsy, classic in all respects, was supplemented by grand mal attacks of focal onset and a regular order of muscular march over the entire body. These attacks were attended by full consciousness during the attacks and complete recollection of all the horrible details of the fits. The attacks had a tendency to group themselves in serial and status periods. The patient has had status of 300 conscious attacks daily on several occasions. The grand mal character of the attacks may be proven by the pathetic description the patient has given me in a recent letter. I will give it verbatim, as it is a document of more than ordinary human interest.

"DEAR DOCTOR.—I will try to describe my feelings during the attacks of epilepsy.

"First of all I feel a knocking from the back of the neck to the top of the head, then there is either an itching sensation in the throat or a sense of fullness, or a feeling as though there was a turning on of water in the throat and shutting it off suddenly. A few seconds after, my head swims, the right side of my face screws up, and then when I feel this I know I am in for an attack. My right hand stiffens, the arm twists and then my right leg grows stiff, then the left arm and left leg and, finally, the whole body grows stiff and rigid. My head then turns to the right side, jerking and twisting all the time. I cry and groan, the pain of the twisting of the head off the shoulders is so great. Just as the head twists, so the whole right arm knots up and twists above my head. The grinding, twisting pain is horrible. When this painful agony is just at its worst, the stiffening over all the body lessens and my limbs are thrown, knocked about and bruised. Sometimes when the spasm leaves the left arm first, I reach over with it and hold the right arm and the head from the hardest thumping.



CASE II.—J. P. Photograph of a grand mal epileptic fit during which there was retention of consciousness.



CASE I.—L. B. Genuine convulsive epilepsy with retention of consciousness in seizures. Outlined area on right arm is an epileptogenic zone.

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"The general feeling is as if I'm continually shocked by a powerful current of electricity, starting in the head and shooting out into the limbs. The grinding, twisting of the bones and joints are too horrible and awful to describe. I sometimes wish the bones would break and relieve me. The most awful pain is at the head and in the right arm, whether the attack is grand mal or partial. When partial I hold the head and right arm to some extent by means of the left hand; this keeps down the pain somewhat. The force of my right hand as it twists up to the head is so great at times that a strong person is powerless to keep the member down. My mind is always clear in these attacks and is only bothered in keeping track of what is going on around me by the enormous pain which I suffer in my body. The head inside does not pain me until after. Usually I can talk out but a few words, cry for help and wait until some one comes and helps me hold the fit from destroying me. I dare say my fits are different than ordinary sufferers of epilepsy in that their attacks seem to affect their mind in such a way that they don't know they are having a fit. I have fits just like they do, but I am not unconscious. Twice I have had these fits for two weeks at a time on an average of 300 a day. At these periods I suffer the tortures of the damned. I would very willingly undergo an operation if necessary. I think I would survive; if not, I don't care. I am absolutely certain there is some pressure on my brain and if nothing is done soon I am positive I'll die soon in one of these awful attacks. The pain is so enormous. I fervently pray you can relieve me. Have pity on my awful fate and set me free by operation or death, or both."

All three cases I have given are genuine convulsive epilepsy in which either the cortical discharges are slow or incomplete. Consciousness is, therefore, more or less completely retained.

My first case is not unlike in some respects to Lemoine's case in which the crisis developed suddenly; the patient grew pale, became rigid and braced herself against the wall in her chair to avoid falling. While in this tonic stage, her jaws became set and she had great difficulty in talking. The tonic stage, which affected the muscles of the trunk and extremities, was succeeded by a classic clonic stage. During the entire period she conversed with Lemoine, her jaws still locked. She replied intelligently to a number of questions. In the wildest of her conscious convulsions Lemoine had to hold the patient, as in mine, to prevent injuries. As in my first case, there was no cry, no frothing at the mouth and no biting of the tongue. Restriction of respiration invited pallor, succeeded by cyanosis, which, in turn, disappeared as respiration was resumed normally. Convulsions were succeeded by profound physical and mental prostration, as in ordinary epilepsy. In an elaborate and convincing study Lemoine excluded hysteria. Le-



moine, by constant tapping of knee-jerks, as in another of my cases, was able to induce occasional attacks.

In another of Lemoine's cases the man was able to give details of his feelings in the attacks. They were not unlike my third case just given. He felt, in his own words, "rigid and thrown violently on the ground." He felt himself "shaken" and felt an "indescribable malaise" during the seizure. Prolonged watch and study of the case proved the conscious nature of the convulsions. He conversed throughout most of the attacks, as in my case, with fragmentary speech. Hysteria was excluded. In one of his conscious fits he bit his tongue and passed urine.

In Lemoine's third case the attacks were major convulsive seizures with an epigastric aura, attended by a short tonic and prolonged clonic period. Again, as in my first case, this boy was able to converse during the convulsions only up to a certain point. When the convulsions became extremely violent and cyanosis was marked, consciousness was slowly but definitely lost. Stertor followed these latter attacks. [It may be interesting to state that I wrote this paper in the belief that such instances of classic genuine convulsive epilepsy were rare if not unique. A review of the literature has revealed the above cases just cited, which in very many respects are not at all unlike mine.]

It does not seem probable that the explanation of conscious epilepsy can be based on the topographical doctrine that the convulsive and conscious areas are not simultaneously affected, nor that the discharges are purely in the motor elements of the cortex. Nor are there good reasons in the parallel that retained consciousness in grand mal epilepsy is of the same nature as that occurring in psychic epilepsy. Time forbids our discussing this point.

To restate: A tentative explanation may be ventured for the presence of consciousness in genuine convulsive epilepsy. Consciousness is retained, as a rule, in genuine convulsive epilepsy just in proportion as the onset of attack is deliberate and focal. Consciousness is lost in direct ratio to the degree of completeness of these cortical discharges.

Finally, I wish to urge a more careful analysis of the disorders of consciousness, both in epileptic fits and in epileptic stupors. Such studies would not only be of forensic importance, but would throw not a little light on the nature of disturbance in consciousness in deliria, hysteric episodes and the stupors of the catatonic states.

## METABOLISM IN GENERAL PARALYSIS: AN EXAMINATION OF THE URINE, BLOOD AND CEREBROSPINAL FLUID.

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Among mental diseases the study of general paralysis has attracted a vast amount of attention—probably more than any one other condition. There is but slight doubt that this is so because of the fact that this pathologic state is evidenced by such a comparatively clearly-cut symptom complex that there has been an unanimity of opinion as to the diagnosis, an important element in explaining in part at least the concordance in the results of the various investigators.

This generally well-defined disease, running a comparatively rapid course, during which definitely known organic changes tending to parallel the progress of the mental disorder occur, would seem to offer the greatest opportunity for the occurrence of some particular or widespread disturbance of metabolism which might manifest itself in a variation from the normal in certain of the fluids and excretions. The work of Folin<sup>1</sup> has shown, however, that in this as well as in other mental diseases no particular definitely marked deviation from the normal<sup>2</sup> is to be detected. As he has pointed out, here, as in many other mental disorders, the daily amounts of the different urinary constituents vary within wider limits than do similar substances in the urine of a normal individual. Folin considered that the most definite tendency toward abnormality in the metabolism of cases of general paralysis was shown in a rather slight though distinct alteration of the relative amounts of nitrogen and sulphur excreted. There will be occasion to mention this point in more detail at a later time.

<sup>1</sup> Folin: *American Journal of Insanity*, 1904, LX, p. 699.

<sup>2</sup> By "normal" wherever used is understood the figures as are given as such by Folin in the *American Journal of Insanity*, 1904, LX, p. 301.

Previously to the work of Dr. Folin above mentioned there were no complete studies of the metabolism in paresis recorded and a rather careful perusal of the literature has revealed no such investigations of a similarly comprehensive nature since then. The present study is based upon the observation of five cases of paresis. The work has become largely but a repetition of that done by Folin and has been carried out, as far as methods and general plans are concerned, in a manner entirely similar to that formerly described as used in this laboratory.<sup>3</sup> It is only necessary to remark that the collection of the urine began on the fourth morning after beginning the diet (Folin's "milk and egg diet") and that the patients were constantly watched by special nurses detailed for that purpose only. The subjects of the experiment were kept in bed during the entire period of observation. During the second twenty-four-hour period recorded in the tables lumbar puncture was done and during the third blood was taken for cultures, etc., while every day an ordinary leucocyte count was made.<sup>4</sup> In order that the first two procedures might be carried out a subcutaneous injection of hyoscin-morphin mixture was made shortly beforehand. It was not necessary to use this in the third case. Although the drugs exerted some influence upon the excretions it was not so much but that it can be largely allowed for in considering the results of the experiment. As the effect of the drugs has more of a pharmacologic interest than psychiatric it will be treated in detail elsewhere, and only such comment as is necessary in consideration

<sup>3</sup> The American Journal of Insanity, 1909, LXV, p. 592. It might be said at this point that the observations here recorded were made more or less incidentally in connection with other investigations which have not been satisfactorily completed. As these results are independent in part of those obtained by more extensive unfinished investigations in these same cases it was deemed advisable to publish them at this time.

<sup>4</sup> The lumbar punctures, together with a cytologic examination of the fluid and a determination of the presence and increase of proteins was made by Dr. William B. Cornell, Assistant Physician at this hospital. The blood cultures and the determination of the Wasserman reaction in both the blood serum and in the spinal fluid were made by Dr. P. W. Clough, of the Medical Service of the Johns Hopkins Hospital. As both of these will publish their results in connection with larger series of cases and will there give the details of the technique employed, only the findings will be given here.

of the metabolic condition will be made here. The results obtained as arranged in the accompanying tables show quite well the state of metabolism as found in these patients. Some especial features will be mentioned along with the separate case records which follow. No patient had a seizure during the period while under observation.

R. N. H.—Case No. 1527. Table I. Male, age 53. Luetic history positive. Physical condition fair, although there is a lowering of about nine kilos under the usual weight. Pupils unequal and irregular, spastic. Knee jerks are exaggerated; there are definite speech defect, marked tremor, poor memory, want of insight and judgment; euphoria and pressure of activity present. Duration of the disease about three years; diagnosis, paresis; Hyoscin-morphin given on the 20th and 21st. The spinal fluid shows an increase in the number of lymphocytes and in the amount of protein. The Noguchi test was negative. The Wasserman reaction gave negative results with spinal fluid, but positive with the blood serum. Blood cultures showed no growth. Referring to the table it is seen that the total nitrogen is lower than might be expected; the undetermined rest is too high (in part due to the inaccurate urea estimates); the ammonia is high; and on the last day duplicate determinations showed an entire absence of ethereal sulphates. The latter substance and the indican decreased from the first day. Among the ratios it is interesting to note the slightly raised  $N_2:SO_2$ .

P. L. F.—Case No. 1269. Table II. Male, age 37, definite history of syphilis. General physical condition fair; at the present time has several small cutaneous infections over the back. Early in course of the disease and till quite recently seizures have been frequent and severe. Pupils are irregular and inactive, knee jerks are absent; poor memory, no insight or judgment, generally complacent and euphoric, but occasionally irritable; a case of well-advanced dementia. Duration, about four years; diagnosis, paresis. Hyoscin-morphin given daily to reduce restlessness. The spinal fluid shows an increase in lymphocytes and protein; the Noguchi test was positive. Wasserman reaction positive with both spinal fluid and blood serum. Blood cultures sterile. The tabulation of the results does not reveal any very marked deviation, although several minor points are noticeable; low nitrogen and urea with increased uric acid and rest; low total sulphur with high neutral and low ethereal sulphates. Slight increase in nitrogen-sulphur ratio.

H. S. W.—Case No. 1846. Table III. Male, aged 36.5, probable history of lues. General physical condition somewhat below par; particularly is there evident a loss in weight. No seizures have been known to have occurred. Pupils are equal, irregular and react poorly. Affect changeable; insight and memory partial. Tremor of the hands and facial muscles present. Duration, about six months; diagnosis, paresis. No narcosis for puncture or blood cul-



tures. The spinal fluid contains more lymphocytes and protein than is considered normal; the Noguchi test was negative. The Wasserman reaction was positive with both blood serum and spinal fluid. The blood cultures showed no growth. In this case the nitrogen is not low in amount and there is less deviation from the normal in this patient than in any of the others. This is to be noted not only in the absolute, but also in the relative amounts of the different urinary constituents. In connection with the results here given it is to be remembered that in this patient the disease has been evident for only six months, whereas in no one of the remaining patients was the duration less than eighteen months and in most of them much more.

E. J. D.—Case No. 1786. Table IV. Male, age 56.6. Positive luetic infection. Mild seizures have occurred since the onset every few weeks. Until a year ago the patient was not treated in a hospital. General physical condition at the present time is good. Pupils are irregular and unequal and there is no reaction to light. Nearly all deep reflexes are increased and there is a marked tremor. Insight lacking and memory poor. Duration, about three years; diagnosis, paresis. Hyoscin-morphin given on the 4th. Lymphocytes and protein are increased in the spinal fluid; the Noguchi test was positive. The Wasserman reaction was negative with the spinal fluid and positive with the blood serum. Blood cultures sterile. Although this patient weighs over twenty kilos more than the preceding one, the absolute amounts of the different urinary bodies are in most cases slightly less. In the case of E. J. D. there is considerable adipose tissue, whereas H. S. W. is much emaciated.

R. B. S.—Case No. 1787. Table V. Male, age 63.6; no doubt of syphilitic infection. The onset was marked by failing memory, irritability and later a hypomaniacal state, with ideas of persecution. At the present his physical condition is poor and there has been a decided falling off in weight. Pupils do not react to light; there is a tremor of the tongue and hands and the knee jerks are exaggerated. He is disoriented as to time, place and person. Hallucinations and delusions are very active and at times his excitement exhibits itself in actual violence. Duration, about 1.5 year; diagnosis, paresis. There was an increase in the number of lymphocytes and in the amount of protein in the spinal fluid and the Noguchi test was positive. The Wasserman reaction was positive with both the spinal fluid and blood serum. Blood cultures were sterile. Hyoscin-morphin given May 18 and 19. There does not seem to be any particular change in the metabolism, as shown by the urinary analysis, other than that the total amounts excreted are somewhat low in general and that the same points as have been indicated in the other cases are present here also.

TABLE I.—Case No. 1527.

Date.	Volume in ccm.	Nitrogen in grams.					Sulphur in grams SO <sub>2</sub> .				Indican, FehL Sol. = 100.	Ratios.								
		Percentage of the total nitrogen.					Percentage of the total sulphur.					100 SO <sub>2</sub> :	P <sub>2</sub> O <sub>5</sub> .	SO <sub>2</sub> .	100 N <sub>2</sub> :					
Weight in kilos.	Sp. Gr. 16°C. 10,—	Total.	Urea.	Ammonia.	Kreatinin.	Uric Acid.	Rest.	Total.	Neutral.	Inorganic.	Ethereal.	Phosphates, Gms. P <sub>2</sub> O <sub>5</sub> .	Acidity, ccm. N/10.	Chlorine, Gms. NaCl.	Phosphates, Gms. P <sub>2</sub> O <sub>5</sub> .	Acidity, ccm. N/10.	Indican, FehL Sol. = 100.	P <sub>2</sub> O <sub>5</sub> .	SO <sub>2</sub> .	NaCl.
Apr. 19, '09	2300	12.10	8.57	0.57	0.40	0.07	2.19	.....	.....	2.07	0.25	2.46	690.20	140.0	.....	.....	.....	.....	.....	86.76
55.80	15		70.27	7.13	3.57	0.57	17.96	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
20	1510	10.49	.....	0.61	0.45	0.10	.....	2.25	0.20	1.85	0.20	2.48	537.66	100.0	8.46	.....	.....	.....	.....	79.82
56.59	19		.....	5.73	4.23	0.90	.....	.....	8.88	82.14	8.88	.....	.....	.....	.....	.....	.....	.....	.....	.....
21	1090	10.71	7.24	0.48	0.39	0.16	2.50	2.21	0.20	1.88	0.13	10.03	470.88	45.4	10.03	.....	.....	.....	.....	.....
57.38	26		67.83	4.46	3.63	0.93	23.25	.....	9.00	94.60	5.85	.....	.....	.....	.....	.....	.....	.....	.....	.....
22	3120	12.84	10.43	1.49	0.38	0.06	0.48	2.77	0.32	2.45	0.00	15.16	661.44	41.6	15.16	.....	.....	.....	.....	.....
56.03	24		80.31	11.47	2.93	0.42	3.70	.....	11.55	88.45	0.00	.....	.....	.....	.....	.....	.....	.....	.....	.....
Average	2005	11.56	8.74	0.65	0.41	0.08	1.75	2.41	0.24	2.05	0.11	11.03	592.37	81.7	11.03	.....	.....	.....	.....	.....
	21		72.63	7.22	3.51	0.71	14.97	.....	9.31	85.66	4.91	.....	.....	.....	.....	.....	.....	.....	.....	.....



TABLE III.—Case No. 1846.

Date.	Volume in ccm.	Nitrogen in grams.					Sulphur in grams SO <sub>2</sub>				Indican, FehL sol. = 100.	Ratios.			
		Percentage of the total nitrogen.					Percentage of the total sulphur.					100 SO <sub>2</sub> :	P <sub>2</sub> O <sub>5</sub> :	100 N <sub>2</sub> :	
Weight in kilos.	Sp. Gr. 16°C. 10. —	Total.	Urea.	Ammonia.	Kreatinin.	Uric Acid.	Rest.	Total.	Neutral.	Inorganic.	Ethereal.	P <sub>2</sub> O <sub>5</sub>	P <sub>2</sub> O <sub>5</sub>	SO <sub>2</sub>	NaCl.
Apr. 26, '09	1980	18.91	16.63	0.84	0.46	0.08	1.62	3.68	0.25	3.16	0.26	86.45	16.59	19.14	65.88
54.00	21		82.84	4.35	2.39	0.42	8.42		7.05	85.64	7.06				
27	1840	16.59	14.29	0.96	0.42	0.05	1.16	3.37	0.23	2.95	0.19	99.59	30.10	30.22	50.64
53.83	19		83.70	5.76	2.52	0.29	6.96		6.82	87.53	5.64				
28	1780	16.52	14.69	0.74	0.41	0.10	0.51	3.27	0.24	2.84	0.19	104.62	30.92	18.61	56.97
53.55	19		89.61	4.51	2.50	0.59	3.11		7.32	86.62	5.80				
29	1650	16.96	14.87	0.73	0.40	0.11	0.85	3.32	0.27	3.04	0.21	97.98	30.36	20.77	57.35
53.55	21		87.73	4.31	2.36	0.65	5.02		7.67	86.34	5.96				
Average	1792	17.35	15.12	0.82	0.42	0.09	1.03	3.46	0.25	2.99	0.21	97.11	19.49	19.69	59.96
	20		85.97	4.73	2.44	0.49	5.83		7.21	86.53	6.11				



TABLE IV.—Case No. 1786.

Date.	Volume in ccm.	Nitrogen in grams.						Sulphur in grams $\text{SO}_4$ .				Ratios.			
		Percentage of the total nitrogen.						Percentage of the total sulphur.				$\frac{100}{\text{SO}_4} :$			
Weight in kilos.	Sp. Gr. $16^\circ\text{C}$ . 10.—														
		Total.	Urea.	Ammonia.	Kreatinin.	Uric Acid.	Rest.	Total.	Neutral.	Inorganic.	Ethereal.	$\text{P}_2\text{O}_5$ .	$\text{P}_2\text{O}_5$ .	$\text{SO}_4$ .	$\text{NaCl}$ .
May 3, '09 79.65	1960	17.75	15.21	0.56	0.63	0.14	1.41	3.57	0.27	3.06	0.24	123.24	24.64	19.99	71.34
	21	85.18	85.18	3.14	3.53	0.78	7.90	7.56	7.56	85.71	6.72	41.6	34.36	20.36	72.45
4 80.33	1600	14.49	12.68	0.48	0.54	0.13	0.66	2.96	0.27	2.82	0.16	129.31	34.36	20.36	72.45
	22	87.50	87.50	3.32	3.73	0.90	4.55	9.13	85.18	5.41		97.14	30.51	21.09	51.46
5 80.06	1675	18.55	16.07	0.64	0.59	0.16	1.39	3.98	0.36	3.34	0.28	104.83	30.50	19.52	42.15
	22	86.17	86.17	3.39	3.13	0.85	7.37	9.04	83.83	7.03		809.06	788.00	100.0	
6 79.20	1570	16.19	14.26	0.62	0.50	0.13	0.71	3.30	0.27	2.68	0.25	113.63	32.50	20.24	59.35
	21	86.80	86.80	3.78	3.06	0.79	4.33	8.42	83.52	7.80		523.96	523.96	63.3	
Average	1694	16.82	14.54	0.59	0.57	0.14	1.04	3.42	0.29	2.90	0.23	9.96	3.79	3.79	
	215	86.41	86.41	3.41	3.36	0.23	6.04	8.54	84.56	6.74					

TABLE V.—Case No. 1787.

Date.	Volume in ccm.	Nitrogen in grams.						Sulphur in grams $\text{SO}_2$ .				Ratios.			
		Total.	Urea.	Ammonia.	Kreatinin.	Uric Acid.	Heat.	Total.	Neutral.	Inorganic.	Etheral.	$\text{P}_2\text{O}_5$ .	$\text{P}_2\text{O}_5$ .	$\text{SO}_2$ .	100 N:
Weight in kilos.	Sp. Gr. $15^\circ\text{C}$ . 10.—														
May 17, '09	1670	12.90	.....	0.53	0.40	0.10	.....	2.83	0.24	2.37	0.22	97.78	21.47	21.33	86.41
54.90	19		.....	4.50	3.10	0.77	.....		8.47	83.66	7.77				
18	1890	13.47	12.01	0.59	0.43	0.07	0.37	2.67	0.29	2.25	0.13	115.19	22.85	19.51	84.14
54.79	18		89.11	4.38	3.19	0.82	2.75		10.85	83.15	4.96				
19	1440	10.92	9.42	0.47	0.34	0.04	0.65	2.40	0.19	2.09	0.13	102.48	22.51	21.56	85.88
55.01	17		86.19	4.30	3.11	0.37	5.95		7.92	86.65	5.41				
20	1400	13.90	.....	0.53	0.44	0.11	.....	2.56	0.28	2.12	0.16	109.37	19.99	18.28	87.97
54.68	21		.....	3.78	3.14	0.79	.....		10.94	82.81	6.25				
Average	1600	12.32	10.71	0.54	0.40	0.08	0.51	2.62	0.25	2.21	0.16	106.45	21.71	20.49	75.85
	19		87.65	4.24	3.13	0.61	4.35		9.54	84.97	6.07				

Considering these results collectively there are several points which may bear individual comment: (1) a tendency toward a low total nitrogen; (2) the undetermined rest is high and this is in part explainable by the fact that all urines excepting that of the first case (R. N. H.) showed traces of albumin with trichloroacetic acid and that in these a few granular casts were to be made out with the microscope; (3) the neutral sulphur is in the majority of instances high, while the ethereal is low. The ratios show some interesting changes, although these are in any case very slight in amount. And particularly does this apply to the ratio of the total nitrogen to the total sulphur. As mentioned earlier in this paper, Folin, at the conclusion of a long series of experiments investigating the metabolism in a number of cases of mental disease, indicated that one of the most tangible points brought out was that in general paralysis there is a distinct though slight lowering of the  $N_2 : SO_3$  ratio. This was not the case in every instance of paresis, but occurred with such frequency that it seemed somewhat more than mere accident. In view of the figures given by Folin<sup>\*</sup> for this particular ratio, those obtained with the five cases here observed assume a more definite interest, because in every instance the tendency is rather toward too high than too low a quotient. The average ratio for the period is in only one instance below 20, and in only two instances of 19 was it below 19. This ratio seems to be higher on some days when hyoscin-morphin had been given, but the relation does not seem to be constant enough to attribute the increase to the effect of the drug, and further, in the case of H. S. W., no drug was given, and here the ratio is still higher than normal in some instances although not much. One cannot help noticing the parallel in the increase in the ratio and the duration of the disease. In the first two cases, where the ratio is the highest, we find that the disease is not only farther advanced in time, but decidedly so clinically. The third case, on the other hand, is quite early and here the ratio remains well within normal limits. The last two cases occupy an intermediate position. This apparent parallelism may be but a mere coincidence, because when this point is looked up in the cases published by Folin it is not possible to find such close relations in the different cases, although

<sup>\*</sup> Folin: *The American Journal of Insanity*, 1904, LXI, p. 317.

in one or two experiments this feature was evident. Whatever the explanation may be, it is shown by these cases that a high nitrogen-sulphur ratio often occurs in cases of general paresis and that the reverse of this cannot be considered peculiarly indicative of this disease.

In this disease it would appear that there are wide daily variations in the amounts of the urinary constituents excreted which are not entirely explained by the action of the drugs given during these experiments, although a certain amount of the variation must be attributed to this source. Further, it would seem that this deviation from the normal tends to be more extensive in proportion to the advancement of the disease, both as regards time and symptoms.

The cytologic examination of the blood did not offer any points of additional value over those which have been indicated by a great many previous papers, so that the details will not be given. It may be mentioned, however, that in the more advanced cases there seems to be a more definite tendency toward an increase in the total number of cells and also particularly in the number of polymorphonuclears. Also, in the more advanced cases of this series degenerative forms of leucocytes are much more common, so that fragmented and poorly stained cells are very frequently encountered.



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## Notes and Comment.

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GERMAN TRANSLATION OF DR. PANDY'S BOOK.—In the issue for July, 1906, the work of Dr. Kalman Pandy, "*Gondoskodás Az Elemebetegekről Mís Allambokman Es Nálunk*" (*The Care of the Insane in Foreign Countries and in our Own*) was reviewed. In this book he showed a very complete knowledge of the subject from personal observation and a remarkable familiarity with the encyclopedic works of Tucker ("*Lunacy in Many Lands*") and of Letchworth ("*The Insane in Foreign Countries*"), whose authors had visited the same institutions. Unfortunately Pandy's work was published in Hungarian and consequently inaccessible to nearly all readers outside of Hungary. We are glad to be able to announce a second edition of the work revised and much enlarged by Dr. Pandy and translated into German by Dr. Engelken, Jun., of Alt-Scherbitz and published in a handsome volume of six hundred pages with fifty illustrations by Reimer of Berlin. It is practically a new work and deserves to be better known by all who are interested in the care of the insane in other countries. It is entitled "*Die Irrenfürsorge in Europa*" and gives a very full and carefully considered account of the care of the insane in Denmark, Sweden, Norway, Scotland, Ireland, England, Holland, Belgium, France, Germany, Austria, Hungary, Switzerland, Spain, Portugal, Italy, Greece, Roumania, Turkey, Russia, and Finland. There is also a final chapter on the "Family Care of the Insane Throughout Europe." It is very interesting to observe how closely his conclusions confirm the painstaking accounts given by our own countryman, William Pryor Letchworth, who did so much by his admirable work to bring the methods of foreign hospitals for the insane to the knowledge of alienists in this and other English-speaking countries. It can but be most gratifying to him in reviewing the incidents of a life devoted to the betterment of the care of all sorts and conditions of men to feel that his self-denying labors in behalf of the insane are so widely known and appreciated both at home and abroad.



DR. WAGNER'S ADDRESS AT FARVIEW.—Following in the footsteps of Earle, who delivered his address, "The Psychopathic Hospital of the Future," at the laying of the corner-stone of the Connecticut Hospital, at Middletown, and of Ray, who, on a similar occasion, at Danville, Pa., delivered an address on "The Care of the Insane," Dr. Charles G. Wagner, on July 24, 1909, gave an address at the laying of the corner-stone of the new Hospital for the Insane for northeastern Pennsylvania. The occasion was one of interest, and the address worthy of the occasion as will be seen from the following extracts. We regret that lack of space prevents a fuller publication of his able and timely address:

In 1751—forty years before the time of Pinel and Tuke—from your own province of Pennsylvania, the first human impulse appears to have proceeded. The people of Philadelphia petitioned their legislative government for some kind of public provision for the indigent insane, and so successfully did they plead their cause that in the same year—1751—an act was passed providing for the erection of a hospital for their benefit in Philadelphia, on condition that half the cost should be borne by private subscription. This condition was promptly complied with, and in the following year—1752—the first "Pennsylvania Hospital" was opened for the reception of patients.

A century later this hospital was succeeded by the "New Pennsylvania Hospital," which, under the able management of its distinguished superintendent, Dr. Thomas Kirkbride, became known for splendid achievements throughout the civilized world.

In 1773 the second hospital for the care of the insane in America was established at Williamsburg, Va. These two institutions were the only places in the thirteen colonies or in the United States of America where special provision was made for the insane poor prior to the close of the eighteenth century, and there were no private asylums or hospitals, such as had begun to appear in England, for this class of enterprises required knowledge of insanity not easily acquired by physicians of the time and an outlay of money which few of them possessed.

In 1791 the third hospital movement in the interest of the insane in this country was inaugurated when the "New York Hospital" began to receive a few insane patients, and in 1806 the governors of that institution obtained an appropriation from the legislature to build a new building, which was called "The Lunatic Asylum."

The asylum continued in active operation until 1821, when it was succeeded by the Bloomingdale Asylum, which also cared for a limited number of the friendless or poor insane; but the great majority of the mentally afflicted, even at this late date, were still detained in jails where they were treated as criminals, or, in the county poor houses where they were con-

gregated in large numbers and were continually subjected to cruelty and neglect.

During all this time, however, public sentiment was being gradually aroused. In Pennsylvania, in 1817, the "Society of Friends" established an asylum at Frankford, near Philadelphia, with the avowed object of carrying out the system of treatment pursued in England at the "York Retreat," and in the following year the McLean Asylum, at Somersville, Mass., was opened. Next, the Hartford Retreat, in Connecticut, was completed in 1824, and soon thereafter the State Asylum, in Columbia, South Carolina, was erected.

In the meantime a movement was started in the State of New York, which soon found expression in the important law of 1827, which directed that "no lunatic shall be confined in any prison, jail, or house of correction, or confined in the same room with any person charged with or convicted of any criminal offense." By this statute the State of New York took ground far in advance of her sister States and separated forever the insane from the criminal class.

Friends of the insane were now springing up on every side. The medical journals were urging further reforms. The New York State Medical Society, in 1836, memorialized the legislature with a strong plea for the erection of a State asylum where the insane poor might receive the best care and treatment that medical skill could devise. The result of this agitation was the erection of the State Lunatic Asylum, at Utica, which was opened for the reception of patients in January, 1843.

A few years later the Willard Asylum, on Seneca Lake, was created and then followed in rapid succession a series of splendid institutions until New York now possesses no less than 15 State hospitals costing nearly \$30,000,000, in which are cared for 30,000 insane persons.

In 1893 the State of New York achieved its crowning success when the last insane patient was removed from a county poor house to a State hospital, and since that date the State has recognized the insane poor as her wards and has undertaken to care for all indigent persons suffering from mental disease within her borders, in State hospitals maintained at the State's expense.

Now, a word in regard to hospital construction and administration. The fundamental idea that should underlie this great department of public charity is to make our hospitals worthy of the name. To make them hospitals in reality, and not merely places of detention where the inmates may be comfortably housed and fed.

It should be borne in mind that the average life of an insane person is about 15 years, and that the cost of his maintenance is approximately \$200 per annum. It requires small effort, therefore, to perceive that from the economic point of view it is enormously to the advantage of the State to cure as many patients as possible, for, besides the incalculable boon that restored health is to the patient and his family, there is also the great direct gain to the State in the relief afforded from the burden of caring for an

incurable who, by reason of chronic insanity, would otherwise become a permanent tax upon its charity.

Furthermore, it will be readily appreciated that when such a patient is restored to health and activity as a worker among his fellows there must be a corresponding gain as a result of his labor—all of which would be lost to the world if he were left to vegetate in hopeless mental oblivion.

The State, therefore, owes it to itself, as well as to the patient, to provide such care for its insane as will give the best chance of recovery to the unfortunate sufferer. Nor is the task as hopeless as is commonly believed, for, with proper surroundings and appropriate treatment, undertaken early in the course of the disease, a large percentage of the insane may be cured of their infirmity.

The plans and specifications for your new hospital have been wisely prepared by competent architects and they have been approved by men of high standing in the medical profession. Your new structure will undoubtedly be in accord with the best ideas of construction obtainable at the present time—it will be equipped with thoroughly sanitary appliances, including complete bathing facilities—not only in the interest of cleanliness, but with a view to the use of the prolonged bath, the hot and cold shower, the spray, the douche, the plunge, and the many combinations of these, which, when skillfully used, exert such a profound and beneficial effect upon the nervous system.

Electro-therapeutics will have a place in your "armamentarium medicorum" and will play an important part in the restoration of the "mind diseased."

Your wards will be well ventilated apartments, lighted by electricity, heated by steam, and comfortably furnished, with carpetings on the floors, pictures on the walls and draperies at the windows—for all of these things help to banish the idea of prison bars and to make an environment that tends to aid the recovery of the patient.

Good food, and plenty of it, and proper clothing are essentials, and, above all, kind and competent nurses and physicians must undertake the great work of administering this splendid charity when it is completed and its doors are opened for those who need its friendly shelter.

Congenial occupation and recreation must not be overlooked in the scheme of treatment, for these patients are prone to think too much about themselves, and it not infrequently happens that they are started on the road to recovery when once they can be induced to occupy themselves with some kind of employment, or to take interest in some form of amusement.

Concentrated effort on behalf of the individual patient will be the watchword of the future. Schools of instruction will be organized on the wards, sewing classes, carpet weaving, mattress making, caning chairs, upholstery, shoe making, and a hundred other useful employments, now in their infancy, will find wider and wider scope until our hospitals become veritable hives of industry.

The treatment of insanity has been a process of steady evolution during

the past twenty years and no institution is considered complete to-day that does not provide special wards where the best facilities obtainable are at hand for the treatment of the acute or recoverable cases. For the care of this class of patients the best nurses should be detailed, the closest medical attention should be given, and every resource of the hospital should be taxed to the uttermost.

Next to the proper administration of institutions devoted exclusively to the insane, the most crying need of to-day is the establishment of psychopathic wards in connection with our general hospitals.

Every city or town that possesses a general hospital should have connected with it a psychopathic ward with trained nurses under the direction of competent physicians, where temporary care might be given to persons who have shown symptoms of mental derangement pending observation and commitment to a State hospital for the insane. Such care would often quickly restore the equilibrium of tottering reason and save the patient from much of the distress that almost inevitably attends commitment to a State hospital.

If there were places of this kind available there would be no longer any excuse for the deplorable practice of placing the insane temporarily in common jails where, often, regardless of sex or mental disturbance, they are grossly ill treated.

In conclusion, permit me to urge that our charitable institutions, one and all, be kept out of politics. The most competent physicians and nurses obtainable are essential to the proper administration of these institutions, and nothing could be more fatal to their usefulness than the frequent changes incident to the shifting of the political weather vane.

A HISTORY OF THE MEDICO-PSYCHOLOGICAL ASSOCIATION.—It will be remembered that last year, at Cincinnati, a fresh beginning was made in the above history, which for some reason had lingered ineffectually in the hands of a committee for several years, by the appointment of a new committee. Whether the change in the composition of the committee is calculated to hasten the progress of the work remains to be seen. It is altogether probable that the former committee was appalled by the magnitude of the task involved in the history, and no committee, however zealous to complete the task, can hope to do so single-handed. The labor is very great and the active co-operation of every member of the Association is urgently solicited. The History of the Medico-Psychological Association is in effect the history of the whole movement which has resulted in the modern care of the insane in the United States and Canada. It involves a careful history of each institution, whether asylum, hospital, retreat or sanita-



rium, and equally a biography of every man who has labored in the good cause. Some person or persons should volunteer in every State to take charge of the history of its institutions and men, and prepare it for transmission to the committee. It was evidently the intention when the committee was appointed to subdivide the work as shown by the appointment of Dr. William F. Drewry for the South, Dr. Richard Dewey for the West, Dr. Chas. W. Pilgrim for the Middle States, Dr. G. Alder Blumer for New England and Dr. S. J. W. Burgess for British America. An excellent model for the work is the Presidential Address of the late Dr. S. O. Powell, entitled, "A Sketch of Psychiatry in the Southern States," published in Volume 4 of the Transactions. The chairman of the committee, Dr. Henry M. Hurd, of Baltimore, is desirous of securing the active co-operation of members of the Association and will gladly correspond with any interested person. It has been suggested by Dr. Dewey that much valuable information can be gained by consulting Legislative Proceedings and statute books. Those persons who are in institutions situated at State capitols are peculiarly well situated to pursue such inquiries, and are urged to do so. It is to be hoped that by the next meeting of the Association a gratifying degree of progress in the history can be announced.

DEATH OF DR. E. H. VAN DEUSEN.—The death of Dr. Van Deusen, of Kalamazoo, removes a notable figure in the history of the insane in Michigan—a man who had contributed much to bring about the advanced position which the State has taken for the past thirty years in giving liberal care to her unfortunates. He was a native of New York, of good Dutch stock and with a decided capacity for public service. He was educated at Williams College and at the College of Physicians in New York. He also had a service in the New York Hospital and imbibed its best traditions of the proper care of sickness and misfortune. He came later to the New York State Lunatic Asylum at Utica (now the Utica State Hospital), then under the charge of Dr. N. D. Benedict, Dr. Brigham's successor, but soon under the vigorous management of Dr. John P. Gray, for many years editor of this Journal. Here he was associated for several years, in addition to the men above mentioned, with Dr. John B. Chapin, now the

Nestor of the American Medico-Psychological Association, Dr. George Cook, later of Brigham Hall, Canandaigua, Dr. J. M. Cleveland, the builder of the Hudson River Hospital, Dr. A. O. Kellogg, Dr. T. R. Beck and others. He remained here until his removal to Michigan in 1858 to assume charge of the completion and opening of the Michigan Asylum for the Insane at Kalamazoo. Here he found a hospital for the insane, liberally planned, which had been ten years in building and which had been destroyed by fire before it was completed. His first mission was to complete this building by placing before the legislature the needs of the State. He possessed a happy faculty of interesting the members of the medical profession in the humanitarian aspects of the work, and also the members of the legislature and State officers generally in the public duty of taking care of all the insane of the State irrespective of the duration of their mental disease. He believed that as long as patients have mental disease they need the care which is given to the sick and should not from mistaken ideas of economy be returned to county receptacles or almshouses, but should continue in organized hospitals under the skilled care of the State. By a consistent advocacy of these principles he beheld the asylum at Kalamazoo grow to a large institution, and also saw established a second institution at Pontiac and a third at Traverse, in the location and building of which he was personally interested.

He had a charm of personality which attracted all who came in contact with him and endeared his patients to him. He was a ready writer and his letters to his friends or to his former patients and their friends were models of the epistolary art, now fast disappearing. He took infinite pains in his letters to the friends of patients to relieve their anxiety and to give them confidence in the institution. He had rare ability as a medical man and was extremely able in the treatment of mental disease. His keenness of observation and the care with which he studied his cases are well shown in his famous paper on neurasthenia which formed the supplement to one of his biennial reports to the legislature. It was the first paper of any importance written upon a topic which since then has received so much attention. It was republished in Volume XXV of the *JOURNAL OF INSANITY*, page 445, and is a classic worthy of a place with the writing of Brigham, Bell, Ray, Kirkbride or Gray.

After a service of twenty years his health, always delicate, failed utterly and his valuable services were lost to the State in great part. His influence, however, continued a mighty force to the day of his death. Earnest, devoted, philanthropic and unselfish, he worked for the good of humanity and had a rich reward in the appreciation of his friends, neighbors and fellow citizens in the State of his residence.

AMERICAN ASSOCIATION OF CLINICAL RESEARCH.—In view of the increasing and intelligent interest which is being shown in clinical studies in psychiatry we believe many of our readers will be glad to take an active part in the formation of an association to promote clinical research. The following letter has been sent to many clinicians and we are happy to be able to forward the interests of the movement by bringing it to the attention of the readers of the JOURNAL.

*Dear Doctor:* A meeting of physicians and surgeons interested in scientific clinical research is called for Wednesday, October 27, 1909, at John Ware Hall, Boston Medical Library, No. 8 Fenway, Boston, Mass. The meeting will come to order at 10 a. m., and carry its sessions through Wednesday, and, if necessary, through Thursday and Friday.

The object of the meeting is: First, to establish an American Association of Clinical Research; secondly, to establish clinical research on an incontrovertible scientific basis in hospitals; and thirdly, to institute an "American Journal of Clinical Research," in which the work of members of the American Association and of others doing clinical research work in a scientific manner shall be published.

You and your friends are herewith cordially invited to participate in this meeting and in the proposed movement of scientific clinical research.

This invitation is extended to all physicians and surgeons whose interest goes beyond the immediate case work of ordinary clinical societies; and it is hoped that the invitation will be accepted by all medical practitioners, irrespective of their present medical affiliations, who can appreciate the necessity for establishing on an incontrovertible scientific basis the certainties and limitations of the present practice of medicine and surgery before attempting to add to the already large and cumbersome field of medicine.

The American Association of Clinical Research is not intended to disturb the present medical affiliations of its members nor to interfere in the very least with the duties they owe and the privileges they enjoy by virtue of their affiliation with any existing national medical body.

The American Association of Clinical Research is to take cognizance of the fact that the clinic requires cold facts and conclusive methods, and upon

these fundamental requirements, the structure and the work of the American Association of Clinical Research are to be built.

It is of the utmost scientific importance to establish conclusively all that is at present true in medicine and surgery, and only upon such proved knowledge, to base any further advancement. The clinic deals with clinical entities and not, like the laboratories, with parts as entities. Therefore, clinical research differs, and must differ, from experimental laboratory researches. Clinical research must consider clinical entities, and when considering parts, it must consider them only as parts and not as wholes. All that subserves the object of obtaining and investigating clinical facts and principles belongs to clinical research and the laboratory is a part of the means of clinical research, but only a part.

The crux of the matter appears to be that experimental laboratory proof is not sufficient clinical proof. In order to advance in an irresistible line, clinical research must be based on a conclusive form or method of clinical proof. In experimental proof, we dislocate a part from a whole and attempt to prove the whole from the part, as though a dislocated part could always prove the whole. Or, we attempt to prove facts in one species by facts in another species, as though the two species were identical. For instance, the experiments made on animals to elucidate certain elements of fever bring out a fact of almost insurmountable difference between man and the lower animals, the fact that man has associated with the nakedness of his body a highly perfected power for regulating his temperature, a highly developed vasomotor system and a vast array of sweat glands, a characteristic complex of things which apparently no other species of animal life presents. Experiments made on animals to prove febrile or other clinical phenomena in man, may be suggestive, but for obvious reasons cannot be conclusive. To prove observations in man, the observations must be made on man and not on animals. But observations on man even are not necessarily conclusive. Individual observations on man cannot be conclusive, because the same experience cannot be repeated, and when we prove by numbers, we compare similar but not identical experiences. Analogy is not conclusive proof. Identity alone is conclusive proof; but since, in medicine, identical experiences cannot be repeated, we must provide simultaneous identical experiences in order to have proof by identity. Clinical proof is conclusively established when all observations and experiments are made conjointly by at least two competent men, preferably of opposite ideas, at the same time. Conjoined critical observation and experiment, at the bedside and in the laboratory, as may be required, furnish simultaneous identical experiences, the proof proceeding on the principle that a whole can be proved only by the whole and not by dislocated parts.

These and other weighty questions await your assistance for a necessary solution. The benefit that will accrue, both to medicine in particular and to the medical profession and humanity at large in general, from a satisfactory establishment of scientific clinical research, can be easily surmised. Come prepared, yourself and your friends, to give to this matter your



mature convictions and your personal assistance. Only from a critical interchange of critically acquired opinions, can we hope for clearness and for the clarification of the medical atmosphere now charged with confusion and indifference.

Your communication, indicating your interest and your expectation of being present at the meeting in Boston on October 27, next, is eagerly awaited, and on receipt of the expression of your interest, further developments will be communicated to you personally in due time.

Please address your communications at the earliest possible date directly to James Krauss, M. D., 419 Boylston Street, Boston, Mass.

Yours fraternally,

JAMES KRAUSS, M. D.,

*Chairman Committee American Association Clinical Research.*

**DEATH OF DR. B. D. EASTMAN.**—Dr. B. D. Eastman, the first medical superintendent of the State Insane Asylum, at Topeka, Kansas, and earlier of the State Hospital, Worcester, Mass., died of heart disease at his home in Topeka, Kansas, on Saturday morning, September 11, in the seventy-fourth year of his age.

Dr. Eastman opened the hospital at Topeka, in 1879, and continued at its head for eighteen years with the exception of two short intervals when the institution came under the baleful control of party politics.

The new State hospital at Worcester was built under his supervision and largely after his plans. He was for many years an active member of the American Medico-Psychological Association, but for some time his health has prevented his attendance at its meetings. A notice of Dr. Eastman's life and work will appear in a subsequent number of the JOURNAL.

**DEATH OF DR. W. W. IRELAND.**—Dr. Ireland who was well known through his contributions to the literature of psychiatry, and will be personally remembered by many of our readers, died at his home in Musselburgh, Scotland, May 17 last, at the age of seventy-seven. Dr. Ireland had a long, interesting and varied career. The son of an Edinburgh publisher, he was educated in the university of that city and in Paris, and shortly before the outbreak of the Indian mutiny joined the Bengal Horse Artillery as assistant surgeon. He was present at the siege of Delhi and attended the present Lord Roberts, then a lieutenant, when he was wounded. After seven months active service Dr. Ireland was

shot in the eye, the bullet passing out behind the ear. At the same time another ball struck him in the shoulder and lodged in the back being subsequently removed by the surgeon. It was a year before he could leave his bed and not until three years had passed was he able to undertake the voyage home. It was ten years before he was able to engage in the work of his profession. In 1861 Dr. Ireland wrote *The History of the Siege of Delhi*, this was followed by two works *Studies of a Wandering Observer* and *Randolph Methyl*, a tale of Indian life.

When he resumed professional work he took up the study of mental diseases and shortly was appointed superintendent of the Larbert Institution for Imbecile Children. He was much interested in studies in heredity and two of his works are based upon studies in this field: *Through the Ivory Gate* and *The Blot on the Brain*. In 1877 he published a work on *Idiocy and Imbecility* and in 1900 one on *Mental Affections in Children*.

Notwithstanding the handicap to his early professional career resulting from his wound and the resulting blindness in one eye, Dr. Ireland did during the subsequent years of his life a vast amount of work and gained the warm esteem of a large circle of professional friends. He was not one who repined over his misfortunes and met whatever came to him with a serene and confident mind. He said of himself near the close of his life at the jubilee of his M. D., at Edinburgh, that: "He was not one of those who were in doubt as to life being worth living; he would gladly live his life over again, and he had found that his worst experiences had always taught him something."

## Book Reviews.

*Therapeutics of the Circulation.* By LAUDER BRUNTON, M. D., etc. (Philadelphia: P. Blakiston's Son & Co., 1908.)

This volume of 280 pages consists of eight lectures delivered in the spring of 1905 in the physiological laboratory of the University of London, under whose auspices they are published. Naturally, some rewriting has been necessary to adapt these lectures to readers rather than hearers, but it is inconceivable that there should have been any loss and that in the present form they are less capable of being understood. While illustrations and diagrams have taken the place of the actual experiments, there are so many of these and the explanations are so clear that it seems probable that in the present form it is even easier to follow and understand as one can digest the various points advanced more at leisure. This is possible largely due to Dr. Brunton's delightful style which makes this book extremely pleasant reading. The separation into lectures makes a somewhat artificial division of the subject, which appears to be a slight defect, and while it may be desirable to preserve the lectures in the original form so far as possible, it would have been better perhaps to have adhered to a division by subheads rather than have these come in various irregular positions of the lectures. After a very brief introduction the author takes up the Physiology of the Circulation, Pathology of the Circulation, Valvular Diseases of the Heart, Method of Treatment in Cardiac Disease and Treatment of Cardiac Diseases. In order to bring the subject up to date there are several appendices treating of matters not included in the lectures.

The book is a valuable contribution and gives in a compact, readable form a summary of all that should be known in reference to the circulation by every medical man, whether he be student, practitioner or specialist. Dr. Brunton deserves the thanks of all who read his book for making of what might be a task almost a recreation.

W. R. D.

*Philadelphia General Hospital Reports.* Volume VIII, 1908. Edited by HERMAN B. ALLYN, M. D. (Philadelphia: Printed by Dunlap Printing Company, 1909.)

This is a well-printed volume of 272 pages containing 41 papers, including the report of the resident physician, of the superintendent of the training school for nurses, an account of the founders' week reunion and a list of the members of the medical board. Eight of the papers are especially of neurological interest and are: Tabes Associated with Trophic Changes Suggesting Acromegaly, by F. X. Dercum; A Study of the Refraction in

the Morally Deficient White Male Adolescent, by Chas A. Oliver and Jay C. Knipe; Clinical Report of a Case of Herpes Zoster Ophthalmicus Involving the First Division of the Left Fifth Nerve, by Chas. A. Oliver; The Symptom Complex of Occlusion of the Posterior Inferior Cerebellar Artery—Two Cases with Necropsy, by Wm. G. Spiller; A Case of Epileptic Automatism, in which there were also Hallucinations and Other Mental Phenomena, by Chas. S. Potts; Röntgenology in Neurology, by Mihran K. Kassabian; Pseudo-bulbar Palsy, by J. H. Lloyd; Hydrotherapy—Methods of Application, with Results—as Used in the Philadelphia Hospital for the Insane, by Walter G. Bowers. It is needless to say that all of the papers are of interest, although some are quite brief, and the last-named paper might have been expanded without diminishing our interest in it.

In contrast with the last volume, this leaves nothing to be desired in mechanical details.

W. R. D.

*Neurological and Mental Diagnosis. A Manual of Methods.* By L. PIERCE CLARK, M.D., and A. ROSS DIEFENDORF, M.D. (New York: The Macmillan Company, 1908.)

This little book by two well-known authors gives excellent methods of neurological and mental diagnosis and is very valuable. The descriptions given are clear and the apparatus required is simple and easily obtained. Neurological methods of diagnosis occupy about one-third of the book, the other two-thirds being given to mental diagnosis. The latter portion consequently goes more into detail and is of increased value because of the preceding presentation of neurological methods. The phenomena of the various forms of insanity are analyzed and the methods of psychological investigation are given. The new terminology of Kraepelin is carefully explained. A glossary of terms used in psychiatry is also given. The book is well adapted to the use of students of medicine.

*Handbook for Attendants on the Insane.* Fifth edition, revised and enlarged. (Chicago: W. T. Keener & Co., 1909.)

This handbook, which is published by authority of the British Medico-Psychological Association, has been known for some time, but in the present edition it has quite outgrown itself and is now more than double the size of the fourth edition, which was a volume of 158 pages. It now contains 390 pages. In the five editions 33,000 copies have been printed. Perhaps one reason why this book has been so popular is its comprehensiveness, containing as it does in sections or chapters the amount of the various subjects which pupils are often required to glean from larger text-books or the notes taken from a lecturer. The eleven sections in order are entitled: Anatomy and Physiology; General Hygiene and Causation of Disease; Accidents, Emergencies, First Aid; General Symptomatology of Bodily Disease, with a Brief Description of the Commoner Forms of Disease of Each System; The Nursing of Bodily Diseases; The Nervous System; Mind in Health; The Mind in Disease; General Care and Nursing of the Insane; Diseases



of the Nervous System; General Duties of an Attendant. This is a radical change from the last edition, which contained but five chapters.

In its present form it seems that this handbook has gained greatly and must prove more convenient to both pupil and teacher than former additions. A noteworthy addition is the greatly increased space given to the anatomy and physiology of the nervous system, an increase of 36 pages. Another improvement is the omission of the questions which formerly were at the end of each chapter and which had but little value except for self-quizzing. In its present form this book is a great improvement over the former edition and will certainly prove valuable in asylum training schools.

W. R. D.

*Genito-Urinary Diseases and Syphilis.* By HENRY H. MORTON, M.D., Clinical Professor of Genito-Urinary Diseases in the Long Island College Hospital; Genito-Urinary Surgeon to the Long Island and Kings County Hospital, etc. Illustrated. Second edition. Revised and enlarged. (Philadelphia: F. A. Davis Company, 1908.)

This book has the virtue of brevity and for this reason will be of use to students who desire much information in a compact form. The ground is covered with a fair degree of thoroughness; in certain places however (as, for example, in the chapter on prostatic hypertrophy) the treatment is entirely too sketchy and the modern advances, which in the case of the prostate have been marked, are passed over with bare mention. The illustrations are very much below par.

## Abstracts and Extracts.

*Contribution to the Study of the Blood Pressure in General Paresis.* By A. SCHMIERGELD. New York Medical Journal, Vol. XC, p. 402, Aug. 28, 1909.

The author briefly reviews the opinions of Craig, Pilcz, Walton, and Bravetta, and explains that their different results are easily explained by the fact that blood pressure depends upon so many factors that in comparing it in different individuals it must not only be observed under the same conditions, but also many times in the same individual. His results, which were obtained from patients in the Manhattan State Hospital at Ward's Island, N. Y., are very briefly stated and are summed up as follows:

1. To estimate the blood pressure of an individual it is necessary to measure it several times.
2. The blood pressure in general paresis is very variable.
3. In the majority of cases, however, it seems lower than in normal individuals.
4. There exists no relationship between the mood of the paretic and the arterial tension; elated paretics can have a high pressure and depressed paretics a low one.

W. R. D.

*Observations on the Blood Pressure and Vascular Disease in the Female Insane.* By JOHN TURNER. Journal of Mental Science, Vol. LV, p. 418, July, 1909.

The author, who is senior assistant medical officer at the Essex County Asylum, makes an examination of his accumulated observations of blood pressure to determine: "whether its routine determination is worth while; whether from it any fairly trustworthy conclusions can be drawn as to the condition of the circulatory apparatus during life, or as to the prognosis, not only with reference to the mental disorder, but as to the prospects of the duration of life, or whether the time spent in this direction might not more profitably be otherwise employed; and further to ascertain whether the results obtained tally with those of previous workers."

He first discusses a number of papers on this method of observation and states that he used Martin's modification of the Riva-Rocci instrument, the observations being made daily for a week between 10 and 11 a. m. He then takes up the blood pressure in different forms of insanity, the relation between coagulation rate and blood pressure, the correlation of blood pressure observations and post-mortem and microscopical exami-

nation of cases, and the factors which control blood pressure. A number of tables are inserted and the conclusions are as follows:

1. There is no definite relation between pressure and exalted or depressed emotional states, but the very general occurrence of higher pressures with the first few readings on consecutive days in any individual case suggests that there is some nervous condition at work which has the effect of interfering with the pressure.

2. The only condition revealed by collating a number of sphygmomanometer observations which has a constant relation to height of pressure is advancing age.

3. From pressure observations alone only a very rough opinion can be deduced as to the structural alterations of the circulatory mechanism.

4. Height of pressure and slow coagulation rate are generally associated, but this is a rule to which there are many exceptions.

5. The high percentage of the smaller blood-vessels, especially renal, which present microscopically structural changes, points to the great importance of vascular lesions in the histogenesis of insanity.

6. Evidence in the form of free gland cells in the blood stream is recorded, which lends support to H. Batty Shaw's view that in some cases heightened blood pressure may be due to the entrance of kidney substance into the circulation.

In view of the fact that vascular changes are so frequently met with in the insane, the author believes that the routine record of the blood pressure in conjunction with histological examination of the blood-vessels is likely to result in a better understanding of the factors which control the circulatory mechanism, and if only for this reason is a measure which fully justifies the time it occupies.

W. R. D.

*Psychasthenia.* By A. H. RING. Boston Medical and Surgical Journal, Vol. CLXI, p. 185, August 5, 1909.

This is a very good digest in which the author briefly discusses the history, symptom complex, clinical picture, diagnosis, and treatment of psychasthenia. His conclusions follow:

1. Janet, who coined the word psychasthenia, intends to include under the term, obsessions, manias of doubt, tics, agitations, phobias and the deliria of contact, states of anxiousness, neurasthenias and bizarre sensations of strangeness and depersonalization. These he would group together into a grand psychosis similar to hysteria and epilepsy.

2. Psychasthenia is at base a disturbance of the feelings, the will and perception, and may range from mere eccentricities in the superficially normal through mild depression to melancholia and dementia.

3. Two types: (1) those in which the disturbance shows itself principally in motor fatigue and (2) those in whom the principal affection is in the sensory motor and emotional sphere, the latter offering the less favorable prognosis.

4. Phobias result from an unhealthy, prolonged feeling tone of depressing ideas and may be conscious or subconscious.

5. Doubts and indecisions are evidence of fatigue of the higher centers which preside over formative and newly synthesized associations. The final judgment is thus rendered difficult or impossible and the victim finds himself in a state of vacillation and with a tendency to revert to the lower and simpler associations long formed. Weakened cerebral inhibition also plays its part.

6. Obsessions and impulsions are the emotional result of the above factors and show themselves principally as a failure to inhibit the feeling-tone of ideas automatically repeated, yet the all-pervading asthenia checks the impulses short of accomplishment.

7. Psychasthenia should be differentiated from hysteria, epilepsy, dementia præcox, manic-depressive insanity, and paresis.

8. The treatment is largely prophylactic and educational.

W. R. D.

*Considérations thérapeutiques sur les troubles mentaux d'origine toxique.*

*La médication iodée.* Par HENRI DAMAYE. L'Echo Médical, Année 12, p. 381, 9 août, 1908.

The author, briefly discussing the subject of intoxications, refers to his treatment of confused and stuporous cases with iodide of potassium. He believes that iodine has a specific action upon ganglion cells and explains the remissions in paresis by what he believes is a temporary cessation of the intoxication. He suggests that the group of confused cases have an acute or a subacute period of confusion which he terms the therapeutic period and is of the opinion that in this proper treatment may prevent the case from becoming a chronic one. Abstracts of ten cases are given, six of which were cured, two improved, and two unchanged. Details of the method employed follow. From the abstracts the impression is derived that the general treatment by rest, diet, etc., may perhaps have had quite as much to do with bringing about the recoveries as the iodine medication. References are made to several papers on the same subject. The author believes that the iodine medication is at last an adjuvant to more general measures, and that by its use we may shorten the course of the mental trouble.

W. R. D.

*Considerazioni statistico-nosologiche sulla demenza precoce.* Pel ALBERTO ZIVERI. Il Manicomio, Anno XXIV, p. 87, 1908.

This study was made on the patients at the hospital at Brescia, Italy, which has a total population of 568, or 278 men and 290 women, the cases of dementia præcox forming 25, 28, and 22 per cent, respectively, of the above numbers. In the majority of cases the onset was between the ages of 20 and 25. All of the cases are placed in the hebephreno-catatonic and paranoid groups, which seems a somewhat meager clinical classification, 80 per cent of the men and 87.5 per cent of the women belonging in the former, and 20 per cent of the men and 12.5 per cent of the women in the latter. These are the principal statistics which are shown in the tables given. Comparisons are made with the results of other writers, which



are numerous. The author then discusses etiology at considerable length and gives several case abstracts. He concludes:

1. That dementia præcox is always a constitutional disease (in a broad sense, that is to say it may be so regarded as much on account of the changed metabolism as by a deviation from the normal mental) and as such may sometimes be developed (though more slowly) without any apparent external etiological factor, but also frequently brought about and accelerated in its course and termination by many accidental factors (emotions, ill usage in a broad sense, trauma, intoxications and infections.)

2. A dementia præcox from an accidental cause as of post-infective or post-toxic origin does not exist, but we may have a pseudo-dementia syndrome which is post-infective or post-toxic, occurring in few cases in which an amentia instead of terminating in recovery has an unfortunate end and is succeeded by a demential state which may have some analogous characteristics with dementia præcox, and from which it is difficult to establish the differential characteristics with certainty. This form does not appear to attain to the unity of dementia præcox, and it would seem that there are various diseases or syndromes included in the latter. It is important to keep the syndrome of dementia præcox as formulated by Kræpelin intact.

W. R. D.

*De la soidisant "paranoïa."* Par DR. SERGE SOUKHANOFF. *Journal de Neurologie*, 14 Année, p. 241, 5 Juillet, 1909.

In this paper Dr. Soukhanoff discusses the work of Kræpelin and other modernists who have done much to formulate the present views regarding paranoia, and compares the teachings of the present day with those of the past. He satisfactorily sums up his paper with the following conclusions:

1. *Chronic paranoia* with hallucinations is a form of dementia præcox.
2. That form formerly known as *reasoning paranoia* belongs to the order of reasoning psychoses, that is, one of the constitutional psychopathies.
3. *Acute paranoia* should be counted as a maniacal-depressive psychosis.
4. The paranoid symptoms observed in the chronic intoxications should be entered under the corresponding title of the so-called psychoses of intoxication.
5. Of the complex group of the former paranoia there does not remain any symptomatic complex which may actually be considered as an autonomous disease.

W. R. D.

## Half-Yearly Summary.

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CALIFORNIA.—On June 10, 1909, the State Commission in Lunacy decided upon an increase in salaries of the medical officers of the State hospitals, those of superintendents, which are now \$3000, being \$3600, and those of the assistant physicians being increased proportionately.

—*Southern California State Hospital, Patton.*—There are now under construction the following buildings: A receiving cottage, which is really a group of three, consisting of two wings, one for male and one for female patients, which will hold 30 patients each, and connected by a two-story building, the first floor of which will be used for hydrotherapeutic purposes, and the second floor to be occupied by nurses. There will be an extra large corps of nurses on duty in this building, and the ratio will be one nurse to six patients. There is also building a cottage for the first assistant physician. Contracts have been made for the following buildings: One large two-story cottage for 80 female patients and to cost \$40,000; another cottage of cheaper construction for 75 patients, which will cost \$20,000. In addition to the above work the erection of a second story of the building, known as the Congregate Dining Hall, will soon be begun. This second story will be divided into small wards and occupied by 100 male patients. It is to be an open ward and patients confined here will be employed about the farms, grounds and orchards. The cost of these buildings are covered by special appropriations passed by the last legislature.

In addition to the foregoing, contracts have been let for the erection of two small cottages at a cost of \$7000, which will hold 30 patients each. These two cottages are especially designed and adapted for tubercular cases, and these will complete a group of four cottages, the four having a capacity about 100 beds.

COLORADO.—The legislature recently made an appropriation to establish an institution for the care of the feeble-minded, to be located on farm land near Denver.

—*Colorado State Insane Asylum, Pueblo.*—The Board of Lunacy Commissioners awarded contracts August 10, 1909, for the erection of three new cottages, for 100 patients each, at a total cost of \$150,000.

DISTRICT OF COLUMBIA.—*Government Hospital for the Insane, Washington.*—The Training School held its graduation exercises recently and 12 nurses, 10 women and two men received diplomas. Seventeen attendants

successfully passed the examination of the junior year and are eligible for membership in the senior class. With the appointment of a chief of the Training School, which has been recently effected, it is proposed to outline a course of even more practical instruction than heretofore, and it is the intention to have a complete canvass made with the object of inducing as many attendants as possible to enter the school. This hospital is frequently called upon to furnish to the community in which it is located employees trained as mental nurses in order that their services may be made use of in private work, and it is hoped to train in the future a much larger number, so that, as the community may wish from time to time to be supplied, the institution will be in a position to meet the demands upon it in this particular.

As a result of a series of staff meetings, which have been attended by the members of the medical fraternity in Washington generally, a bulletin containing the papers presented at these gatherings has been issued. This publication has been put forth as an effort toward fulfillment of what is conceived to be the true position of a hospital for the insane, viz., that it should not only be a center for psychiatric information, but a center for the distribution of that information. The bulletin contains the following papers: 1, The Relation of the Hospital for the Insane to the Medical Profession and to the Community, by Wm. A. White, M. D.; 2, The Present Status of Psychiatry in America, by Henry W. Miller, M. D.; 3, The Morbid Anatomy of Mental Disease, by I. W. Blackburn, M. D.; 4, The Functional View of the Insanities, by Shepherd Ivory Franz, Ph. D.; 5, The Standpoint of Histopathology in the Study of Mental Disease, by Nicolas Achucarro, M. D.; 6, The Use of Association Tests in Determining Mental Contents, by Shepherd Ivory Franz, Ph. D., and Wm. A. White, M. D.; 7, A Case of Unilateral Hallucinoses (Alcoholic), by Wm. A. White, M. D.; 8, A Case of Delirium Produced by Bromides, by Mary O'Malley, M. D., and Shepherd Ivory Franz, Ph. D.; 9, The Cytological Examination of the Cerebro-Spinal Fluid, by William H. Hough, M. D.

The Amusement Hall has been practically completed, the contractor's work having been nearly finished, while contracts have been let for the furnishing of the building. It will seat approximately 1200 people, provision being made for the accommodation of more than 800 downstairs and over 300 upstairs. The building is a modern one in every respect; it has been built of brick with white terra-cotta trimmings, to harmonize in appearance with the buildings of the hospital extension, contiguous to which it is located, and is admirably adapted in every detail for the purpose for which it was designed.

A new boiler house is being erected and will contain four 300-horsepower boilers. When it is completed it will be coupled up with an existing boiler house and from this source there will be supplied all of the power and heat for the entire plant.

With a view of adding profitable stock to its herd of cows, the hospital has had erected on its farm at Godding Croft, Md., a modern barn to pro-

vide for the housing of 60 calves. It is the intention to supply the cows for the hospital herd hereafter through the medium of the retention and the raising of calves on this farm and fifty are already being cared for at this place, to which have been removed also the poultry yards maintained by the institution.

The plumbing in the home and the relief buildings has been completed and Oaks A Building has been remodeled, so that the tubercular ward has been made materially less, and the remainder of the second floor has been given over to white female patients, with physicians' quarters in the front. The capacity of the building has been increased by approximately 15 beds.

With the opening of a number of additional wards in the hospital during recent months, all the space available for patients has been practically taken up. As all the wards are now occupied, and as the population of the hospital is rapidly increasing, the time seems not far distant when they will be crowded.

Meters have been ordered for the wells, kitchens, pumping station and power house and when they are installed it is expected to be able to keep account in a more systematic manner as to the cost and the use of hot and cold water.

In the laundry a female assistant to the foreman has been appointed to have direct charge of the women employes and to act as the housekeeper for this class of employes.

A work of importance is about to engage the attention of the electrical division of the institution in the re-wiring of the old buildings of the hospital and the laying of conduits throughout the grounds for the proposed change in the electrical plant from a direct to an alternating current.

ILLINOIS.—On July 1, 1909, the State hospitals changed names: that at Bartonville, which has been known as the Illinois General Hospital for Insane, will hereafter be called the Peoria State Hospital, and the others will be known as Jacksonville State Hospital, Elgin State Hospital, Kankakee State Hospital, Watertown State Hospital and Anna State Hospital. These were considered more convenient than the old titles.

At the last session of the legislature an appropriation of \$803,000 was asked by the State Board of Charities to establish colonies of epileptics at Kankakee, Anna, and for feeble-minded epileptics at Lincoln.

—*Anna State Hospital, Anna.*—On April 16, 1909, a new psychopathic hospital was opened here with appropriate ceremonies, addresses being made by Dr. William L. Athon, the superintendent, by Governor Deneen, by Dr. Frank Billings, president of the State Board of Charities, and by Judge Monroe C. Crawford, county judge of Union County. The cost of this hospital was \$50,000 and it is modern in every respect. A similar hospital was recently opened in connection with the Watertown State Hospital, which cost \$100,000, and two, one for men and one for women,



at the Peoria State Hospital, the two costing \$100,000. At the Kankakee State Hospital a building for a psychopathic hospital is nearly completed at a cost of \$75,000, but an additional appropriation of \$20,000 will be required to complete and furnish it. An appropriation of \$25,000 for a similar building at the Elgin State Hospital was found insufficient, so that \$15,000 was asked of the legislature. At Jacksonville State Hospital there are two psychopathic wards, one new and the other an old ward which has been refitted.

INDIANA.—*Northern Hospital for Insane, Longcliff.*—The improvements contemplated are a new local telephone system; new electric lighting and power plant; new plumbing in all old buildings, and a new \$15,000 pathological building to be erected next summer.

Arts and crafts for female patients and out-door and in-door games for male patients have been proved and are proving a valuable branch of treatment.

IOWA.—*Institution for Feeble-minded Children, Glenwood.*—Two hundred acres of land has recently been purchased at a cost of \$20,000, which makes the total acreage at present 870 acres. There is being constructed a new fireproof wing to the Boys' Custodial Building which it is estimated will cost \$40,000. Additional reservoirs and other changes in the water system are being made at a cost of \$10,000, and the total outlay for the completed water system will be \$60,000.

The population of inmates is now 1206.

—*Cherokee State Hospital, Cherokee.*—Contract for a fire station 46 x 26 feet, one and one-half stories, will be let on or before the 31st inst.

A concrete tunnel, 6 x 5 feet 6 inches, and over a thousand feet in length is being constructed, through which all steam and water pipes, also electric wires will be carried from the main station to the psychopathic hospital now being completed.

A concrete underground root cellar, 110 feet long by 30 feet wide is being completed to afford additional room for vegetables of all kinds.

Much grading and road-making has been done during the summer and the work is still in progress.

All of the work, with the exception of the fire station, is being done by the institution, and for the most part with the patients' help.

MARYLAND.—*Springfield State Hospital, Sykesville.*—A new cottage for 75 women patients has been recently completed at a cost of \$30,000.

The new private railroad connecting with the Baltimore & Ohio was recently completed at a cost of about \$100,000. It is believed that it will effect a considerable saving in the hauling of coal and general supplies.

MISSOURI.—*City Asylum, St. Louis.*—The new additions to the St. Louis Insane Asylum are well under way in construction and will be completed

probably by June, 1910. As the completed plant will cost about one and one-quarter million, it should be one of the most modern and handsomest in this country. There is not a feature in modern construction which has been neglected. No expense has been spared in the material, and as a charity institution it should stand out as one of the ornaments of St. Louis and a beneficence of its people. Besides the two additional wings, which will accommodate 2000 patients, the cost of which is \$962,000, there will be an isolation building for the disturbed insane, also a local power and heating plant for this institution, female hospital and poor house; also a three-story kitchen and a laundry with an equal number of stories. As the city charter is now being revised by a board of freeholders, it is advised that a receiving hospital be located on the same grounds as this institution, which will be under the control of a board of experienced alienists, at the same time be of service to not only the medical profession, but also to any citizen who cares to have the advice of this board; also that it be requisite in any court case where insanity is plead in defense. The alleged insane person shall be sent to this hospital and there remain until a decision is rendered by the board of alienists. All patients to be admitted to the general hospital on the affidavit of this board. This should make a complete system, as it will encompass a psychopathic hospital and building for the acute and disturbed insane and a general hospital.

—*State Hospital No. 2, St. Joseph.*—As a result of a disagreement between the board of managers of this hospital and the superintendent, Dr. W. F. Kuhn, the latter was summarily removed from office. Dr. Frederick A. Patterson, a member of the staff, was appointed acting superintendent. Resolutions of censure were adopted by the board, which claim that Dr. Kuhn has been guilty of inattention and misconduct.

NEW JERSEY.—*New Jersey State Hospital at Trenton.*—During the year a great many important improvements have been made.

The legislature during 1908 voted \$111,000 for extraordinary improvements, which included the following: Replumbing, remodeling and the sanitation of the old building, at a cost of \$50,000; tiling all bath rooms, toilets, etc., at a cost of \$20,000. These improvements were very necessary, as the plumbing in this building had not been renovated since its construction 60 years ago.

This includes an equipment of a number of continuous baths for the treatment of excited patients on both wings of the hospital. Each equipment consists of four tubs, controlled by a central table, also electric thermometers which register when the water reaches 110°, or falls below 90°, so that patients are protected, even if an attendant is inclined to be careless. The hot water system has been further regulated by installing Tobey heaters, which control all hot water in the building, and prevent scalding patients through negligence.

In the bath rooms on the male wards the rain baths have taken the place

of the tubs. In the female wings both systems are installed, and in a large majority of the bath rooms shower baths alone are used.

A new up-to-date bakery has been installed, at a cost of \$5000.

Three new artesian wells were bored at a depth of from 250 to 280 feet deep, and an air pressure system installed for forcing water from these wells to the reservoir. Cost of same, \$5000.

The Howard Night Watch System, with central clock and dial, has been installed at a cost of \$1837. A complete telephone system, consisting of a central exchange and 80 stations, was installed by the Bell Telephone Company.

One open-air ward for female tuberculosis patients has been constructed, to accommodate 20 patients, at a cost of \$3500.

The question of fire protection for the hospital has been carefully considered. All apparatus on the wards has been overhauled, and new fire mains and plugs constructed around the buildings. Nurses and attendants have been thoroughly instructed in using the apparatus, and weekly fire drills are held in the various wards.

The medical work has been entirely reorganized. The old case books have been displaced by a complete envelope system. Daily staff meetings are held at 8.30 a. m., at which all new cases are presented for discussion and diagnosis. The medical staff has been increased by three members, including one woman physician.

All forms of mechanical restraint have been abolished since January, 1908, and resulted in great improvement in the treatment and care of the patients. Although this practice has been established in the hospital since its opening, the change was made with very little inconvenience, and nothing has occurred to warrant the return to any form of restraint.

An up-to-date operating room, with facilities for all emergencies, has been established.

A consulting staff of 11 outside physicians and surgeons has been appointed, and give much assistance to the regular hospital physicians.

Dormitories for the admission of acute and excited cases have been established on both the male and female wings; also in the annex, dormitories for the old and feeble patients, with better classification of such patients, has been possible.

In the past year a marked increase in the efficiency of the laboratory has been apparent. Additional apparatus, for which an appropriation of \$1000 was granted by the last legislature, has been installed, and has proved of considerable advantage to that work.

There is a noted increase in the number of autopsies performed in the hospital. Seventy-five autopsies have been performed, 63 of which were regular hospital cases, the others being performed at the various hospitals, or obtained from other sources.

The work performed has been of a rather widely varying nature. In addition to the regular hospital clinical and pathological examinations, frequent sanitary and bacteriological analyses have been made of the hospital water and milk supplies.

Following the typhoid epidemic of two years ago, repeated bacteriological examinations for the detection of chronic bacillus carriers were made, both at the hospital laboratory and the Research Laboratory of the New York Health Department.

The nursing staff has been increased about 20 per cent, so that now the proportion is one nurse to nine patients.

Seven hundred and fifty books have been added to the general library for the use of the patients. The medical library has been increased to 550 volumes.

Mr. Henry Veghte was appointed librarian of the medical library, and his knowledge of foreign languages is of much assistance to the staff.

Trial visits of discharged patients has been extended from one to four months, and has proved of considerable advantage, and has been received with satisfaction by the friends of the patients.

—*New Jersey State Hospital at Morris Plains.*—There has been a steady increase in the insane population during the past six months, the census on August 28 being 2050—the greatest number ever under treatment in the institution.

A number of much needed improvements have been completed, among which is the equipment of both the Main Building and the Dormitory Building with spiral fire escapes. These are very efficient and insure the rapid escape of all patients in case of fire or accident.

The last legislature appropriated \$2500 for the installation of new toilets, bath-tubs and plumbing in the Administration Building. This work has been completed. \$15,000 was appropriated for a cold storage plant. The work on this improvement has not been completed, but the probabilities are that the plant will be in operation before the end of the year.

The location of the store-room was changed on August 15, 1909, to the basement of the south side of the Dormitory Building, as the part of the Main Building formerly used for that purpose was much too small for efficient work being done in that department.

The Nurses' Cottage, destroyed by fire in November, 1907, has been completely renovated and refurnished and was reopened in April of this year.

The board of managers, at a regular meeting held at the hospital on August 12, 1909, reaffirmed their confidence in Dr. B. D. Evans, the medical director, and resented some recent newspaper attacks by the passage of the following resolution:

"WHEREAS, Our attention has been called to an attack, indirectly and by innuendo, on Dr. B. D. Evans, medical director of this institution, because of his connection with a recent case in the New York courts, and

"WHEREAS, We have intimate personal knowledge individually and as a board of Dr. Evans' ability and appreciate the prominent position this institution has attained through his efforts, be it

"Resolved, That the board of managers of the State Hospital extend to Dr. Evans this assurance of our belief in his integrity and honesty of purpose."



**NEW YORK.**—According to various reports, the Lunacy Commission is having trouble in securing a site for the new hospital which is to be established on Long Island. It was said that a site of 548 acres, 75 per cent of which was tillable land, had been secured at Greenvale, but a later report stated that owing to opposition of those resident in the neighborhood that this site had been abandoned and a new one selected at Farmington. Here again opposition was met with and it will be necessary to find another site.

Options have been secured on about 550 acres of land in Westchester County, near Yorktown, on which it is presumed will be established the new asylum which shall take the place of the one now on Ward's Island.

—*Manhattan State Hospital.*—The following is the list of improvements made since the issue of the last half-yearly summary:

A new boiler has been installed in the hospital steamboat, "Wanderer."

The addition to the west stable carriage room has been completed.

The alterations to the cupola of the Verplanck Building, occupied by night nurses, have been finished.

New brass feed lines have been installed to the boilers in the west power house.

A new hot water tank has been purchased and erected in the basement of the main building for men, replacing one worn out.

Another tent has been purchased and put up at the camp for tuberculous men.

An estimate has been allowed by the Lunacy Commission for renewals to the foundation of the store-house and the contract has been awarded for overhauling and enlarging the ice plant and insulating the cold storage rooms. This work is to be done during the coming winter.

A house providing additional accommodations for the medical staff, arranged for two families, is in course of construction, the work being done by extra mechanics employed by the hospital under direction of the hospital departments. The house is expected to be ready for occupancy this fall.

Material and labor have been allowed by the Commission under legislative appropriation for changing the electric lighting plant to a complete three-phase system.

The contract for the renewal of steam lines in the east building and the men's home, east, has been awarded and the work is now well under way.

The Lunacy Commission has allowed money for the purchase of a fifty-foot gasoline launch to take the place of the electric launch "Evelyn" and the steamboat "Mermaid," recently sold. This boat is now being constructed and will be delivered in a few weeks.

Five hundred barrels of cement, with other material and labor necessary, have been allowed for the construction of sidewalks.

Material for fly screens for the tubercular camps has been purchased.

A new hot water tank, supplying the hydrotherapeutic equipment of Ward 26, has been installed in the basement, replacing the old tank, now worn out.

A new float and some new piles, with other alterations, have been installed at the city dock.

A new steam table has been purchased for the women nurses' home to keep the food for sick nurses warm. Heretofore the food could not be served hot, on account of the home being some distance from the kitchen.

The sea wall in front of the Administration Building is being straightened, \$600 having been allowed for this purpose.

The Lunacy Commission has allowed \$2300 on special fund for painting throughout the institution, with the understanding that an equal amount will also be allowed on the maintenance appropriation for this purpose during the winter.

Two surgeons' lavatories have been allowed for the operating room in Ward 59.

An automatic stop weaving machine, with spindles, has been allowed for the weaving of wire mattresses for iron beds. This work is to be done in the hospital shop in the future. Heretofore these springs have been purchased from the Prison Department.

There has been allowed \$1500 on special fund for ward furniture and \$1000 on general fund for furniture throughout the institution, to be provided in October.

A folding gate has been ordered to be installed between Camp Dent, proper, and the new sitting room recently built.

At the present time the Central Islip State Hospital is receiving all the women patients from this hospital district (boroughs of Manhattan, Richmond and Bronx), and on alternate weeks the men patients. This arrangement was made because of the great overcrowding of this hospital.

At this writing arrangements are in progress to transfer one hundred women patients to the Hudson River State Hospital and they will go in a few days.

The hospital during the past six months has been quite free from any contagious diseases or serious accidents or suicides. Methods of treatment and medical research are being extended and electro- and hydrotherapy are being used more and more. The clinical laboratory is enlarging its field and the detection of cases of tuberculosis in its incipiency is followed by their prompt isolation. The isolation camp for tuberculous cases is doing excellent service. A number of cases have recovered and the health and safety of the entire hospital have been safeguarded by the effective isolation of tubercular cases.

Delightful excursions in the waters of the lower bay and Long Island Sound are features of this favorably located hospital, the steamboat "Wanderer," belonging to the hospital, being used for this purpose. These outings are greatly enjoyed by the patients.

A weekly baseball game is now established at the hospital.

Theatrical friends of the hospital have shown their sympathy and kindness several times by bringing an entire vaudeville company to the institution.

Open-air concerts by the hospital orchestra are frequently given.

On May 30 there were field day sports, and it is intended to give an extensive program of outdoor sports on Labor Day.

—*Matteawan State Hospital, Fishkill Landing.*—There has recently been purchased about 130 acres of farm land out of the appropriation of \$15,000 made for this purpose by the last legislature.

—*Eastern New York State Custodial Asylum, Thiells.*—The commission in charge of this new asylum for defectives recommended that the name be changed to Letchworth Village, in honor of William Pryor Letchworth, who has been so prominent in serving the interest of those requiring State care, and Governor Hughes has signed a bill authorizing this change.

—*Willard State Hospital, Willard.*—Fifty women patients were transferred from the Kings Park State Hospital last March, and arrangements are being completed for the reception of 25 more from the Manhattan State Hospital (Ward's Island), which will bring the total census up to 2400. There are at present four voluntary patients in the hospital, received under the provisions of the new law enacted last winter. The total admissions from the hospital district are considerably in excess of those of last year and overcrowding is becoming quite marked. No additional buildings are contemplated in the near future. Fourteen nurses were graduated from the training school this year. Plans and specifications have been prepared for the installation of an additional engine and dynamo. There is also an appropriation for improving the electric wiring and illumination.

—*Middletown State Homeopathic Hospital.*—Never before in the history of the institution have so many building operations been in progress as during the past summer. The following buildings are under construction: An acute building for recoverable patients; a nurses' home; staff house; physician's cottage; a building for contagious diseases; day room additions to Annexes 1 and 2; a two-story sun room is being added to Talcott Hall; and an underground conduit to connect these annexes and the nurses' home with the boiler house. Two greenhouses, 100 x 20 feet, are being erected to replace those which have become useless because of decay.

The acute building will accommodate 100 patients, and is to cost \$96,500. Two small detached wings, one for men and one for women, equipped with provisions for continuous baths, will furnish much needed equipment for disturbed cases. The acute building is placed near the main entrance to the grounds on a site cleared by the removal of a cottage for women nurses and two cottages for patients. These cottages have been placed close to the street and in full view of the traffic of one of the important roads leading into the city of Middletown. They have the appearance of comfortable private homes and the change is one that is found pleasing to the seventy women patients occupying them. The doors of these cottages are unlocked during the day and the patients enjoy paroles of the hospital grounds.

The nurses' home is nearing completion and it is expected it will be ready for occupancy in the fall. It will furnish quarters for 150 nurses, equally divided between the sexes, and, except in the wing designed for

married couples, the characteristic feature of the building is that each nurse will have a room alone.

The staff house will provide for seven members of the staff and give each a bed room and study, besides common parlors, four bath rooms and toilets, reception room, dining room and kitchen.

The building for contagious diseases is 21 x 71 feet, with a basement for a small kitchen and dining rooms. It provides two single rooms and a small ward for each sex, and is located well apart from the other buildings, is of light frame construction, with stained shingle sides and roof, and is erected not to meet the needs of any present epidemic, but to provide prompt isolation for any contagious cases which may occur.

A conference of physicians of the State hospitals of eastern New York was held at the hospital March 25 and 26, 1909. Besides reviews of the hospital's experience with manic-depressive insanity and with the improvement of old cases of dementia præcox, there was a discussion of the indications for commitment and the responsibility, criminal and otherwise, of those defectives who are designated in the annual reports of late years as constitutionally inferior, but who lack the symptoms of well-described forms of insanity; and a discussion by members of the staff of the Psychiatric Institute of the anatomical basis of arteriosclerotic nervous and mental defects. A report of the conference appears in the New York State Hospital's Bulletin.

—*Kings Park State Hospital, Kings Park.*—The new laundry building, to replace the one destroyed by fire two years ago, is under process of construction and is expected to be completed by December of this year.

A new power plant is also under way, for which an appropriation of \$45,000 was made by the last legislature.

A sewage disposal system is now nearing completion.

An appropriation of \$300,000 was made by the legislature at its last meeting for accommodations for 600 additional patients at this hospital, plans for the construction of which are now being prepared by the State architect, and it is proposed with this appropriation to construct six buildings accommodating 100 patients each of the so-called chronic class.

The necessary appliances for continuous baths have been installed on the disturbed wards in both the men's and women's buildings.

Three men and 11 women completed the training-school course and eight of these are now completing post-graduate work at Bellevue and Allied Hospitals, Brooklyn Hospital, Nursery and Childs and the New York Infant Asylum, with all of which this hospital is affiliated.

Fourteen nurses who are graduates of general hospitals have taken advantage of the course offered at this hospital for experience in the nursing of nervous and mental diseases.

Considerable research work has been done in the laboratory this season, especially in connection with the Wassermann test, the results of which will probably be published later.



—*Craig Colony for Epileptics, Sonyea.*—Two new silos, 16 x 32 feet, were erected during the early summer.

A small addition to the laboratory, so as to provide better facilities for autopsies and also providing additional space for keeping of bodies, is to be constructed.

New hot water systems are being installed in different parts of the institution.

An ambulance has been purchased.

Two buildings for tubercular patients are now under course of construction and are expected to be ready for use early in 1910. These buildings are frame and are to be two stories in height, each to accommodate forty patients.

—*Utica State Hospital, Utica.*—The acute hospital, or reception building, was opened in May. All new cases are received in this building for treatment. It is equipped with a hydrotherapeutic department, prolonged baths and an operating room. The building was designed to accommodate 100 patients.

The Nurses' Home, which accommodates 150, has been in use for about a year. It is much appreciated by the nurses, who formerly resided on the wards.

These two buildings have increased the capacity of the hospital to nearly 1400.

Two additional physicians have been added to the staff.

Land has been broken for a new laundry and a barn for cattle at the hospital farm.

—*Buffalo State Hospital, Buffalo.*—A pavilion or bungalow for women patients suffering from tuberculosis is under construction and approaching completion. The capacity will be for about 18 patients at present, but it is planned to be a center for a larger colony as needed. It is one story in height; consists principally of a large dormitory room from which a hall extends, on either side of which are a few isolation rooms, baths, water section, special diet kitchen, clothes closets, etc. Around the entire dormitory room a broad veranda is placed, a part of which can be enclosed in glass in the winter time. The veranda space is so arranged that a number of if not all the patients may be rolled there in their beds, and remain in the open air at all times when the weather is suitable.

A new residence for the steward is being constructed by the hospital, under the direction of the head carpenter. The plans provide for a roomy, comfortable house, at an estimated cost of about \$6000.

The facilities for the care of recent acute cases are being improved by the addition of 14 single rooms, which are being built as additions to the men's and women's wings of the acute reception building.

At 5.30 a. m., on the 6th of June, 1909, a fire was discovered in the dry room of the laundry of the hospital. As far as can be learned, it started

spontaneously in a pile of clothing, and owing to the difficulty of getting at the fire in the roof it swept to the ironing room and to the second story over the sorting room, occupied by women employes. It destroyed the roof of the ironing room, but did not seriously injure the machinery. Although the roof fell among the machinery, and the destruction from fire and water was great, yet the débris was cleared away and by 8 o'clock the next morning the laundry machinery was running as usual, though under an open sky. As a result, a new and improved dry room has been installed at an expense of \$6375. Aside from this expense, the cost of repairing the building, new roofs, replacing clothing burned, etc., was \$7182.71.

The plan inaugurated last year of sending about 18 patients to live in a large rented cottage on the lake shore at Wilson, Niagara County, is in operation again this year with the most gratifying results. The benefits are most immediate and noteworthy in the cases of retarded and sluggish convalescence. The gain in strength, health, spirits, etc., which comes from a three weeks' stay at the lake shore, in a house which gives a close approach to normal living condition, is most gratifying and surprising. Fishing, swimming, walking, driving and gardening constitute most of the means of occupation and recreation, and the improvement is so marked that many patients are enabled to be discharged soon after their return. Many of the more suitable men patients are also enabled to secure employment at the fruit farms of the neighborhood and some of them continue to be self-supporting.

OHIO.—*Massillon State Hospital, Massillon.*—During the past year no new buildings have been constructed.

The main entrance to the hospital grounds has been improved considerably by the construction of a brick and stone gateway. There is also in course of construction a "no-dust" driveway, manufactured from carbovia, a tar compound, which will materially improve the approach to the main buildings.

The dairy farm, which was opened some months ago, continues to prove a valuable asset. There is now an excellent and plentiful supply of milk and butter, together with a good stock of farm products. A cottage located on the farm affords lodging for about 25 patients, who assist in caring for the farm. During the year the herd was inspected by the State veterinarian, for tuberculosis, and among 116 cows examined but three reacted to the tuberculin test.

A new heating and hot water system has been installed throughout the institution, the old system being entirely inadequate.

There have been no changes in the official staff.

—*Columbus State Hospital, Columbus.*—This hospital is very much crowded at present and it is expected to ask for a new building for cases of tuberculosis. For several years past the cases of active tuberculosis have been in tents during the summer months, but when the cold weather

comes it is necessary to move them back to the main building and cottages, and in the crowded condition and with the continual increase of population, this is difficult to do.

The cold storage plant, which cost \$25,000, is very complete and gives an abundance of ice and storage capacity.

A number of concrete walks through the grounds have been laid by the hospital help, and they have added very much to the beauty of the surroundings. On one part of the farm there is a stone quarry and recently a stone-crusher was purchased. The product of this gives an abundance of crushed stone for concrete work, roads, etc.

There have been no changes in the staff.

—*Ohio Hospital for Epileptics, Gallipolis.*—The State conference of superintendents, trustees and stewards of Ohio State hospitals and the Board of State Charities met at the hospital on July 28 and 29. The conference had as its guest Dr. Wm. F. Drewry, of Petersburg, Virginia, president of the American Medico-Psychological Association, who made an address.

A new cottage for 25 little girls of the first grade has lately been opened. Extensive alterations to the central heating plant are under way and the establishment of a dairy in the near future is contemplated. The institution now has upward of 1400 patients.

OKLAHOMA.—*State Hospital for the Insane, Fort Supply.*—On April 14, 1909, a fire was started here by a prairie fire, which destroyed several buildings and caused a loss of \$75,000. Owing to the good service of the attendants there was no panic and no loss of life. A few days later another fire occurred, which caused slight damage, and still later a third fire, which destroyed the main hospital building. During this fire it was necessary to carry a number of patients from the building.

PENNSYLVANIA.—A bill was recently passed by the legislature providing for a State hospital for inebriates, but was vetoed by the governor because there were not sufficient funds for the purpose. The bill carried an appropriation of \$100,000.

The legislature also appointed a commission to inquire into the cost of land, buildings and maintenance of a State farm for the insane, feeble-minded and criminal, who are wards of the State and whose labor it is believed will be profitable, so that such an institution will be partly self-supporting.

An appropriation of \$77,000 was made for the erection of the new Hospital for Criminal Insane at Fairview, the cornerstone of which was laid July 23, 1909.

An appropriation of \$400,000 was also made for the Allentown Insane Asylum, and on July 20, 1909, the State Homeopathic Hospital Commission awarded contracts amounting to \$338,600 for the erection of three wards, two chapels and three corridors. It is estimated that \$475,000 will be needed to complete this institution.

—*State Hospital for the Insane, Department for Men, Norristown.*—

There have been a number of changes in this department during the past year. The alterations and improvements in the large refectory were completed about a year ago and this building now has accommodations for nearly 900 patients as well as attendants.

February last the new building for a demented and untidy class of patients was opened. This building has a capacity of over 250 patients. The cooking is done in the building, there being a special dietary suited to this class of patients. The building is ideally ventilated so that the amount of odor is reduced to a minimum. It has been found very well adapted to the purpose for which it was built. This building cost only \$50,000.

The new convalescent building for men, which has a capacity of 80 beds, was opened on the 18th of August. This also has its own kitchen and special dietary. The building is two stories high and has ample porches and above the center of the building there is a large recreation room in addition to the ordinary day rooms. It cost \$50,000.

The Nurses' Home, for male attendants, will be opened within the next month. It has room for about 140 employes. One part of the building is entirely separated from the rest for the purpose of housing the female nurses who are employed in the Male Department and who number about 25. The basement of this building is fitted up with billiard tables and shuffleboards, etc., for the recreation of the male attendants when off duty. This building, including furnishings, cost about \$75,000.

With the completion of these buildings, the overcrowding of the Male Department will be largely eliminated for the present.

To the account of above building operations it should be added that the new Assembly Hall has been completed this summer. The lower floor is to be used for dancing and the upper floor contains permanent theater chairs for 1200 patients with a large stage. The hall will also be equipped with a large pipe organ for church services. The cost of this building was only \$50,000. It will be used by both the male and female departments.

TEXAS.—*Southwestern Insane Asylum, San Antonio.*—A change in the resident staff occurred March 16, 1909, when the following physicians entered the service: J. R. Nichols, M. D., of Greenville, Texas, superintendent; J. W. Oxford, M. D., Austin, Texas, first assistant physician; J. W. Springer, M. D., San Antonio, Texas, second assistant physician; L. B. Jackson, M. D., Gatesville, Texas, third assistant physician and pathologist.

It is recommended that the name, Southwestern Insane Asylum, be changed to San Antonio State Hospital. A minor surgical department will be installed. The pathological laboratory, operating room and accessory rooms thereto are being overhauled. Additional furniture, fixtures and instruments have been ordered, which will make these departments complete.

A telephone system, bowling alley and small gas plant will be installed within the next three months. An irrigation plant has been completed at a



cost of \$700, which will supply an abundance of water for the gardens. \$90,000 has been appropriated to be used as follows: \$35,000 to construct three female wards and an associate dining room in the basement to accommodate 120 patients; \$35,000 to construct wards and an association dining room in the basement to accommodate 120 male patients; \$10,000 to construct a tubercular cottage for 30 female patients, so that this class can be isolated to themselves; \$10,000 to construct a tubercular cottage for 30 male patients, so that this class can be isolated to themselves. With these additions the capacity of the institution will be increased to 1050 patients. \$2500 will be expended on purchasing additional laundry machinery and adding more room. \$600 will be expended on purchasing additional cooking vessels for the kitchen and rearranging it. \$10,000 will be expended in purchasing boilers and machinery and appliances for the engineering department.

Electric fans have been installed in the amusement hall, which enables diversions for patients during the heated term. Electric fans have been installed in the ironing room of the laundry, which makes that department more comfortable to the patients and employes.

Sanitary floors will be put in two associate dining rooms and in 12 toilet, bath rooms and lavatories. Metal ceiling will be put in on the fourth floor of Administration Building.

There are many other improvements and repairs that have been made recently, such as repairing roofs, cornice to buildings, construction of "brakes" for airing and screening unsightly articles from the different departments. Putting in a system of order, cleanliness, book-keeping, requisitions and record-keeping. Much work is being done on the grounds, building of walks and putting in curbing on driveways. New roofs have been put on several buildings in the dairy department, the cemetery put in first-class condition and a dead wagon purchased. All coffins are trimmed up neatly and the patients given Christian burial. A fire department has been organized and additional equipment purchased. Everything that needs paint and whitewashing, such as barns, fences, basements, buildings and bedsteads, are receiving a new dress as fast as possible.

VIRGINIA.—*Central State Hospital, Petersburg.*—A new modern cottage and all necessary equipment for the treatment of female tuberculosis patients is about completed. It will accommodate about 50 patients. The pathological department is being improved and a specialist in this line of work has been put in charge and will devote his entire time to this department of the hospital medical work. There are now in the hospital 1378 patients, exceeding the normal capacity of the hospital by 150. The next legislature will, of course, be urged to appropriate sufficient money to provide the necessary accommodations. There are, however, no insane confined in any of the jails or almshouses of the State or other local institutions. Various improvements are contemplated for the coming year.

## Appointments, Resignations, Etc.

- ABBOTT, DR. FLORENCE H., appointed Assistant Physician at Worcester Insane Hospital at Worcester, Mass., June 15, 1908.
- AITKIN, D. C. STANLEY, Fourth Assistant Physician at Department for Men, State Hospital for the Insane at Norristown, Pa., resigned.
- ALEXANDER, DR. ROSE, appointed Medical Interne at Government Hospital for the Insane at Washington, D. C., July 1, 1909.
- BARDIN, DR. JAMES C., appointed Pathologist and Bacteriologist at Central State Hospital at Petersburg, Va.
- BARTRAM, DR. NELL WRIGHT, appointed Medical Interne at Kings Park State Hospital at Kings Park, N. Y., June 6, 1909.
- BASS, DR. THOMAS B., Assistant Superintendent of State Epileptic Colony at Abilene, Texas, promoted to be Superintendent.
- BOWEN, ORLANDO M., appointed Warden of New Jersey State Hospital at Morris Plains, April 15, 1909.
- BOWERS, DR. PAUL, appointed Medical Interne at Government Hospital for the Insane at Washington, D. C., August 5, 1909.
- BOWERS, DR. W. G., appointed Fifth Assistant Physician at Department for Men, State Hospital for Insane at Norristown, Pa., July 1, 1909.
- BRAITHWAITE, DR. WM. W., appointed Medical Interne at Government Hospital for the Insane at Washington, D. C., August 11, 1909.
- BRENT, DR. MEADE S., appointed Third Assistant Physician at Central State Hospital at Petersburg, Va.
- BROOKS, DR. HENRY J., from 1874 to 1877 Assistant Physician, and from 1890 to 1893 Superintendent of Illinois Northern Hospital for the Insane at Elgin, died at his home in Dixon, February 25, 1909, from cerebral hemorrhage, aged 59.
- BROWN, DR. SHERMAN, appointed Junior Physician at Kings Park State Hospital at Kings Park, N. Y., August 10, 1909.
- CALDER, DR. DANIEL H., Superintendent of State Mental Hospital at Provo City, Utah, reappointed.
- CAMPBELL, DR. FRED G., appointed Junior Assistant at Worcester Insane Hospital at Worcester, Mass., July 1, 1908.
- CARD, DR. WILLIAM R., appointed Assistant Physician at East Mississippi Insane Hospital at Meridian.
- CARRICK, DR. MANTON M., appointed Assistant Superintendent of State Epileptic Colony at Abilene, Texas.
- CARROLL, DR. ALEXANDER J., Fourth Assistant Physician at New Jersey State Hospital at Morris Plains, promoted to be Third Assistant Physician.
- CHILD, DR. HOWARD T., appointed Medical Interne at Craig Colony for Epileptics at Sonyea, N. Y., August 2, 1909.
- COLE, DR. BLASE, appointed Sixth Assistant Physician at New Jersey State Hospital at Morris Plains after a competitive examination, November 6, 1908.
- CORBUS, DR. JOHN C., from 1898 to 1906 Superintendent of Illinois Eastern Hospital for the Insane at Hospital, died at Mendota, March 17, 1909, aged 75.
- COSSITT, DR. H. AUSTIN, Second Assistant Physician at New Jersey State Hospital at Morris Plains, resigned October, 1908, to enter private practice in New York City.
- CROUCH, DR. ELMER L., Assistant Physician at Illinois Central Hospital for the Insane at Jacksonville, resigned.
- DAVIS, DR. R. A., appointed Fourth Assistant Physician at Central State Hospital at Petersburg, Va.
- DIEFENDORF, DR. A. ROSS, Assistant Physician and Pathologist at Connecticut Hospital for the Insane at Middletown, resigned January 31, 1908, to enter private practice.
- DENNON, DR. MARV, appointed Assistant Physician at Department for Women, State Hospital for the Insane at Norristown, Pa.

- DODGE, DR. PERCY L., appointed Junior Assistant at Worcester Insane Hospital at Worcester, Mass., August 1, 1908, and appointed Medical Interne at Kings Park State Hospital at Kings Park, N. Y., April 16, 1909.
- DOWNING, DR. ERWIN R. E., Dental Interne at Government Hospital for the Insane at Washington, D. C., resigned June 23, 1909, to enter private practice.
- DREW, DR. CHARLES A., Medical Director at Asylum for Insane Criminals at State Farm, Mass., appointed Superintendent of Worcester City Hospital at Worcester, Mass.
- EASTMAN, DR. B. D., formerly Superintendent of Topeka State Hospital at Topeka, Kan., died at his home in Topeka, September 11, 1909, of heart disease, aged 73.
- ECHOLS, DR. GEORGE L., appointed Medical Interne at Government Hospital for the Insane at Washington, D. C., August 11, 1909.
- EDWARDS, DR. GLENN G., appointed Assistant Physician at Ohio Hospital for Epileptics at Gallipolis.
- EVERETT, MOSES K., Warden of New Jersey State Hospital at Morris Plains since 1890, died March 24, 1909, after a short illness.
- FETTER, DR. S. P., Assistant Physician at Ohio Hospital for Epileptics at Gallipolis, resigned February, 1909, to enter private practice in Portsmouth, Ohio.
- FISHER, DR. E. MOORE, Fifth Assistant Physician at New Jersey State Hospital at Morris Plains, promoted to be Fourth Assistant Physician.
- FLINN, DR. G. W., appointed Assistant Physician at City Asylum of St. Louis, Mo.
- FORDYCE, DR. ORA O., appointed Superintendent of Athens State Hospital at Athens, Ohio.
- GATEWOOD, DR. W. L., Third Assistant Physician at Central State Hospital at Petersburg, Va., promoted to be First Assistant Physician.
- HAMILTON, DR. SAMUEL W., Assistant Physician at Manhattan State Hospital at Ward's Island, N. Y., resigned May 1, 1909, to be Second Assistant Physician at Utica State Hospital at Utica, N. Y.
- HAVILAND, DR. CLARENCE F., Assistant Physician at Manhattan State Hospital at Ward's Island, N. Y., promoted to be Second Assistant Physician, April 1, 1909.
- HELLWEG, DR. ELIZABETH S., appointed Medical Interne at Manhattan State Hospital at Ward's Island, N. Y., May 18, 1909.
- HENSCHEL, DR. L. K., Sixth Assistant Physician at New Jersey State Hospital at Morris Plains, promoted to be Fifth Assistant Physician.
- HINTON, DR. R. T., appointed Assistant Physician at Illinois Central Hospital for the Insane at Jacksonville.
- HOCH, DR. AUGUST, First Assistant Physician at Bloomingdale Asylum at White Plains, N. Y., appointed Director of Pathological Institute at Ward's Island, N. Y.
- HOLZER, DR. CHARLES E., appointed Assistant Physician at Ohio Hospital for Epileptics at Gallipolis, Ohio.
- HORSFORD, DR. FREDERICK C., appointed Second Assistant Physician at New Jersey State Hospital at Morris Plains.
- IRBY, DR. CHARLES R., appointed Dental Interne at Government Hospital for the Insane at Washington, D. C., September 10, 1909.
- JARRATT, DR. T. F., First Assistant Physician at Central State Hospital at Petersburg, Va., resigned August 17, 1909, to re-enter private practice.
- JENKINS, DR. CHARLES L., Assistant Physician at State Hospital at Raleigh, N. C., appointed Physician in Charge of the Epileptic Colony.
- JONES, DR. MAY FARINHOLT, Assistant Physician at Eastern State Hospital at Williamsburg, Va., resigned.
- KARPAS, DR. MORRIS J., Assistant Physician at Manhattan State Hospital at Ward's Island, N. Y., left during the spring, 1909, for a year's study in the different centers of Europe.
- KEANY, DR. ROBERT E., appointed Superintendent of State Hospital No. 4 at Farmington, Mo.
- KELLY, DR. ALICE E., Medical Interne at Kings Park State Hospital at Kings Park, N. Y., resigned June 30, 1909.
- KUHN, DR. WILLIAM F., Superintendent of State Hospital No. 2 at St. Joseph, Mo., removed from office July 1, 1909.
- LEAHY, DR. S. R., appointed Medical Interne at Kings Park State Hospital at Kings Park, N. Y., August 5, 1909.

- LLOYD, DR. HENRY, appointed Assistant Physician at State Hospital No. 4 at Farmington, Mo.
- LONG, DR. T. W. M., Fourth Assistant Physician at Central State Hospital at Petersburg, Va., promoted to be Second Assistant Physician.
- MCDONALD, DR. WILLIAM, JR., Clinical Director at Butler Hospital at Providence, R. I., resigned December 31, 1908, to enter private practice in Providence.
- MCINTOSH, DR. GEORGE A., Assistant Physician at Nova Scotia Hospital at Halifax, resigned to study abroad.
- MACLELLAN, DR. E. KIRK, appointed Assistant Physician at Nova Scotia Hospital at Halifax.
- MARVIN, DR. C. S., Assistant Superintendent of Agnews State Hospital at Agnews, Cal., resigned.
- MILLS, DR. HARLAN P., appointed Assistant Physician at State Hospital No. 2 at St. Joseph, Mo.
- MILTMORE, DR. EDWARD H., Junior Physician at Manhattan State Hospital at Ward's Island, N. Y., returned from a year's study in Europe.
- MOORE, DR. CLARA M., appointed Assistant Physician at Colorado State Hospital for the Insane at Pueblo.
- MORRISON, DR. E. B., Assistant Physician at Ohio Hospital for Epileptics at Gallipolis, resigned July, 1909.
- NASH, DR. C. C., Assistant Physician at City Asylum of St. Louis, Mo., resigned to be Physician to International & Great Northern R. R. Co. at Palestine, Texas.
- NEWMAN, DR. P., Assistant Physician at City Asylum of St. Louis, Mo., resigned to enter general practice.
- NUTTALL, DR. W. H., Superintendent of Feeble Minded Institute at Frankfort, Ky., appointed Assistant Physician at Eastern Kentucky Asylum for the Insane at Lexington.
- OBENDORF, DR. CLARENCE, appointed Medical Intern at Manhattan State Hospital at Ward's Island, N. Y., May 31, 1909.
- PARKER, DR. REA, Second Assistant Physician at Central State Hospital at Petersburg, Va., resigned July, 1909, to be First Assistant Physician at Eastern State Hospital at Williamsburg, Va.
- PATTERSON, DR. FREDERICK A., Assistant Physician at State Hospital No. 2 at St. Joseph, Mo., appointed Acting Superintendent July 1, 1909.
- PETERY, DR. A. K., appointed Fifth Assistant Physician at Department for Men, State Hospital for the Insane at Norristown, Pa., September, 1908, and later promoted to be Fourth Assistant Physician.
- PLATT, DR. DANIEL P., Medical Intern at Manhattan State Hospital at Ward's Island, N. Y., resigned May 1, 1909.
- POTTER, DR. FRED C., appointed Intern at Department for Men, State Hospital for the Insane at Norristown, Pa., July 15, 1909.
- POWERS, DR. E. P., Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., resigned September 1, 1909, to enter private practice.
- PRESTON, DR. JOHN, Superintendent of State Epileptic Colony at Abilene, Texas, resigned.
- REILLY, DR. JOHN A., appointed First Assistant Physician at Southern California State Hospital at Patton.
- RICHARDS, DR. JOHN S., Junior Physician at Manhattan State Hospital at Ward's Island, N. Y., resigned April 16, 1909.
- RICHARDS, DR. ROBERT L., U. S. A., assigned to duty at the Government Hospital for the Insane at Washington, D. C., by the Surgeon-General, U. S. A., May 20, 1909. "The immediate cause of his assignment was the appreciation by the Surgeon-General of the need of a physician skilled in psychiatry who should be stationed at the Presidio, San Francisco, where so many insane persons are received in transit to this institution, and where a special pavilion has been built for their care."
- ROBB, DR. DAVID, appointed Medical Intern at Willard State Hospital at Willard, N. Y., August 1, 1909.
- ROBBINS, DR. JOSEPH, from 1901 to 1902 Superintendent of Illinois Central Hospital for the Insane at Jacksonville, died July 19, 1909, from cancer, aged 74.
- RORICK, DR. E. H., Superintendent of Athens State Hospital at Athens, Ohio, resigned.



- ROSS, DR. JOHN R., Junior Physician at Kings Park State Hospital at Kings Park, N. Y., resigned August 1, 1909, to be Assistant Physician at Worcester Insane Hospital at Worcester, Mass.
- RUSSIANOFF, DR. MAX J., appointed Assistant Physician at Rome State Custodial Asylum at Rome, N. Y.
- SCHIEF, DR. A. R., Assistant Superintendent at Iowa Institution for Feeble Minded Children at Glenwood, resigned August 1, 1909.
- SCHORER, DR. CORNELIA B. J., Assistant Physician at Worcester Insane Hospital at Worcester, Mass., resigned May 15, 1908, on account of ill health.
- SCHMID, DR. O. A., appointed Assistant Physician at City Asylum of St. Louis, Mo.
- SHEA, DR. JAMES J., Medical Interne at Manhattan State Hospital at Ward's Island, N. Y., promoted to be Junior Physician, August 1, 1909.
- SINGLETON, DR. DENNIS E., appointed Assistant Physician at State Hospital No. 1 at Fulton, Mo.
- SMITH, DR. MARY HADLEY, appointed Medical Interne at Willard State Hospital at Willard, N. Y., August 1, 1909.
- SOLOMON, DR. MEYER, appointed Medical Interne at Government Hospital for the Insane at Washington, D. C., August 7, 1909.
- SOUTHARD, DR. ELMER E., Pathologist at Danvers Insane Asylum at Hathorne, appointed Pathologist to the Massachusetts State Board of Insanity.
- STANCELL, DR. WILLIAM W., appointed Assistant Physician at State Hospital at Raleigh, N. C.
- STEVENS, DR., appointed Assistant Physician at East Mississippi Insane Hospital at Meridian.
- STONE, DR. WILLIAM A., Assistant Physician at Michigan Asylum for the Insane at Kalamazoo, appointed Secretary of the Kalamazoo State Hospital Board.
- TENNEY, DR. ASA P., formerly Superintendent of the Osawatomie and Topeka State Hospitals, died at his home in Kansas City, Kan., March 20, 1909, from pneumonia, aged 75.
- TURNER, DR. ADELAIDE, Medical Interne at Manhattan State Hospital at Ward's Island, N. Y., for a number of years, died the latter part of April, 1909, after an illness of several months.
- VAN DEUSEN, DR. EDWIN HOLMES, formerly Assistant Physician at New York State Lunatic Asylum at Utica, and from 1855 to 1878 Superintendent of Michigan Asylum for the Insane at Kalamazoo, died July 6, 1909, aged 79.
- WEBER, DR. FRANK S., appointed Assistant Physician at State Hospital No. 4 at Farmington, Mo.
- WILBUR, DR. CHARLES T., from 1876 to 1884 Superintendent of Illinois State Institution for Feeble Minded at Lincoln, and later proprietor of the Wilbur Home for the Feeble Minded at Kalamazoo, Mich., died at his home in Kalamazoo, August 19, 1909, of cerebral embolism, aged 74.
- WILLIAMS, DR. GEORGE, appointed Superintendent of State Hospital No. 4 at Farmington, Mo.
- WILLIAMS, DR. PORTER, Superintendent of State Hospital No. 4 at Farmington, Mo., term expired.
- WILSON, DR. GUSTAVE, First Assistant Physician at Southern California State Hospital at Patton, resigned to enter private practice.
- WOLBARST, DR. A. L., appointed Consulting Genito-urinary Surgeon to Central Islip State Hospital at Central Islip, N. Y.
- WOLFE, DR. MARY M., Resident Physician at Department for Women, State Hospital for the Insane at Norristown, Pa., resigned to take effect October 1, 1909, to open a private sanitarium in the neighborhood of Philadelphia.
- WOODBURY, DR. WYLIE E., appointed Assistant Physician at Michigan Asylum for the Insane at Kalamazoo.
- WOODRUFF, DR. JOHN H., Medical Interne at Manhattan State Hospital at Ward's Island, N. Y., resigned March 12, 1909.
- WRIGHT, DR. FREDERICK L., appointed Medical Interne at Buffalo State Hospital at Buffalo, N. Y., July 1, 1909.
- YARBOROUGH, DR. WILBUR F., Assistant Physician at Florida Hospital for the Insane at Chattahoochee, resigned to enter private practice.





DR. EDWIN HOLMES VAN DEUSEN